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1910

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OF THE

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OF

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1910

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Transactions 1873.

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Name	County	P. O.	Admitted	Term
L. D. Ford	Richmond	Augusta	1842	.....
J. F. Alexander	Fulton	Atlanta	1849	.....
R. D. Arnold	Chatham	Savannah	1849	.....
C. B. Nottingham	Bibb	Macon	1849	.....
Charles Wells	Houston	Perry	1849	.....
R. Q. Dickinson	Dougherty	Albany	1850	.....
H. F. Campbell	Richmond	Augusta	1850	.....
W. M. Charters	Chatham	Savannah	1851	.....
A. Means	Newton	Oxford	1851	.....
L. A. Dugas	Richmond	Augusta	1852	.....
P. M. Kollock	Chatham	Savannah	1852	.....
W. F. Westmoreland	Fulton	Atlanta	1857	.....
F. S. Colley	Walton	Monroe	1858	.....
J. P. Logan	Fulton	Atlanta	1858	.....
J. T. Banks	Spaulding	Griffin	1858	.....
Robert Battey	Floyd	Rome	1859	1877
DeSaussure Ford	Richmond	Augusta	1867	.....
G. W. Holmes	Floyd	Rome	1867	.....
J. G. Thomas	Chatham	Savannah	1867	.....
R. J. Nunn	Chatham	Savannah	1867	.....
Wm. O'Daniel	Twiggs	Bullards	1870	.....
S. W. Burney			1876	.....
Jno. Thad. Johnson	Fulton	Atlanta	1871	1878
Jos. A. Eve	Richmond	Augusta	1852	1879
J. C. Le Hardy	Chatham	Savannah	1868	1880
Wm. F. Holt	Bibb	Macon	1867	1881
A. W. Calhoun	Fulton	Atlanta	1874	1882
K. P. Moore	Bibb	Macon	1871	1883
Eugene Foster	Richmond	Augusta	1875	1884
T. O. Powell	Baldwin	Milledgeville	1867	1886
A. G. Whitehead	Burke	Waynesboro	1869	1887

Name	County	P. O.	Admitted	Term
J. S. Todd	Fulton	Atlanta	1872	1888
J. B. S. Holmes	Floyd	Rome	1872	1889
A. W. Griggs	Troup	West Point	1866	1890
G. W. Mullican	Wilkes	Washington	1883	1891
A. A. Smith	Pulaski	Hawkinsville	1875	1892
W. H. Elliott	Chatham	Savannah	1884	1893
W. F. Westmoreland	Fulton	Atlanta	1886	1894
Frank M. Ridley	Troup	LaGrange	1887	1895
Geo. H. Noble	Fulton	Atlanta	1883	1896
Jas. B. Morgan	Richmond	Augusta	1891	1897
Howard J. Williams	Bibb	Macon	1883	1898
Floyd W. McRae	Dalton	Atlanta	1887	1899
Samuel C. Benedict	Clarke	Athens	1883	1900
Jas. B. Baird	Fulton	Atlanta	1872	1901
Chas. Hicks	Laurens	Dublin	1884	1902
H. McHatton	Bibb	Macon	1883	1903
Wm. Perrin Nicholson	Fulton	Atlanta	1883	1904
W. Z. Holiday	Richmond	Augusta	1884	1905
H. H. Martin	Chatham	Savannah	1902	1906
M. A. Clark	Bibb	Macon	1893	1907
Thos. D. Coleman	Richmond	Augusta	1891	1908
Thos. J. McArthur	Dooly	Cordele	1897	1909
E. C. Davis	Fulton	Atlanta	1894	1910

MINUTES

OF THE

Medical Association of Georgia

Sixty-First Annual Session

Athens, Ga., April 20, 21, 22, 1910

FIRST DAY—MORNING SESSION

The meeting was called to order at 10:00 a. m. by the President, Dr. Thomas J. McArthur, of Cordele, Ga.

Prayer was offered by Rabbi Nathan Blechman.

ADDRESSES OF WELCOME

Hon. H. J. Rowe, Mayor of Athens, delivered an address of welcome on behalf of the city.

MR. ROWE'S ADDRESS

Mr. President, Gentlemen of the Medical Association of Georgia, Ladies and Gentlemen:

For a whole year we have been looking forward to this moment to tell you how you honor us by your presence and how glad we are to have you with us.

I know of no pleasanter duty that will fall to my lot as the executive head of this beautiful city than to bid welcome to such a council of distinguished citizens of Georgia.

Long before I saw the light of day such sons of Georgia as Crawford W. Long, and your first president, Dr. Ford, were drinking deep at our fountain head of education. And today there are few members of the Medical Association of Georgia who do not consider themselves bound to Athens by strongest ties. Here they come as did the pilgrim at the holy shrine to pay homage to their Alma Mater.

Why waste your precious time in telling you of Athens? To know Georgia and her place with the nation is to know Athens and recount in song and story the men who have made Athens their home at some period of their lives. Athens of today is no longer like the Athens you saw a few years ago. Aside from being the educational centre of Georgia, she has oaught the spirit of the industrial age; aside from her surrounding territory, the finest farm lands in all our southland, she can boast of factories, machine shops, banks and commercial houses that rank high up in the scale of progress. These institutions of thrift and industry coupled with her colleges and schools have made Athens grow as perhaps no other city in Georgia has grown during the past ten years. We are glad that you have come to note our progress and to rejoice with us in our good fortune.

Athens is known to be one of the healthiest cities in Georgia. Epidemics are here unknown. Her low death rate is not only attributed to her pure water, sanitation, health-giving atmosphere and uniform climate, but also to her magnificent coterie of physicians—forty or more in number—all happy—all prosperous—all making money fast—making it by treating a fast growing people for growing pains, and it can be truthfully said (Dr. Goss being my authority) that no one has ever died, so long as they "lived in Athens."

Athens is proud of her doctors, they belong to and take interest in our business organizations, they always

put their shoulders to the wheel to make this great commercial machinery fairly hum with life and activity.

We are glad that you have come to Athens, for here the great Crawford W. Long lived and was loved. He lives with us today. His work will journey on from generation to generation, the golden harvest of his discovery all ages will reap.

In welcoming you to Athens I would have you feel that you are at home. Athens is home to every true Georgian.

Here you will find the sweet song of welcome chanted by a thousand birds. Wecome breathed into sweet odors by our garden of flowers. Welcome kissed into melody by our glorious sunshine. Welcome made manifest in that heavenly song without words—the warm handgrasp of friends.

Welcome: twenty thousand sons and daughters of Athens join me at this moment in bidding you a most hearty welcome and with it I extend to you the freedom of the city.

Hon. W. F. Dorsey welcomed the Association as the President of the Athens Chamber of Commerce.

Dr. I. H. Goss welcomed the Association, as the representative of the Clarke County Medical Society.

DR. GOSS'S ADDRESS

Mr. President and Gentlemen of the Medical Association of Georgia:

In the name of the Clarke County Medical Society, is gives me unfeigned pleasure to bid you welcome. Welcome to the good fellowship, appreciation and hospitality of Athens.

All that you see in the Classic City is yours to use and enjoy in unstinted manner.

Among the many conventions it has been our honor to entertain, none will find a heartier welcome or warmer

place in the hearts of our people than this body of large-brained and unselfish men.

It may be as a general rule, comparisons are odious, but I venture to trench upon this falacious proverb by calling your attention to some striking similarities, as well as points of difference in the city of ancient Athens and this modern city of ours.

The architecture here cannot be compared with that of Praxitiles.

The Parthenon once the pride and glory of the Grecians has no counterpart with us.

These monuments of ancient skill have long since crumbled into ruins under the touch of relentless time.

There has been wonderful progress along the high road of the vanishing centuries, since the day when the sculptor chiseled with deft and masterful touch the perfect human figures from the cold incensate marble.

We have transferred the emphasis from the expenditure of force upon inanimate material to man. We spend our time and talents in the cultivation of his imperial intellect and the development of his moral character to fit him for the achievements in science and civic righteousness.

We have learned the difference between the passing and the present and we are building monuments in the lives and character of Georgia's youth that defy the elements of decay.

Twenty-seven years ago when it was our good fortune to entertain this distinguished body, you found us a struggling village. Today we are a little city, with with all the comforts and conveniences that modern invention and liberality can give. But these are not our riches. The atmosphere is rich in the tradition of a noble and heroic past.

This city and community have furnished distinguished men in every department of human endeavor. The Cobbs, Ben Hill, Henry Grady, and among the living

we have our Speer and Joseph Henry Lumpkin and many other conspicuous figures that have adorned their professions and added the wealth of great personalities to the permanent possessions of our common country. But to one we owe a debt of graditude and in our own profession, Crawford W. Long.

This illustrious son of Georgia, as a physician, the exemplar of his profession. As a scientist, great by reason of what he accomplished, but greater by virtue of the achievements he made possible. This man was too great to be localized, he belongs not to Athens, not to the United States, but the world. The prince and the peasant, prophet and priest, civilized and savage are all indebted to him for the alleviation of pain and prolongation of life.

Among the places of interest in our city there is one little home in which we all feel a peculiar interest for the reason it was here that John Howard Payne visited his sweetheart, Mary Harden. He, as you know was the author of that immortal verse, "Home, Sweet Home," that touches the tender chord in every heart.

In speaking of Athens' charms, I must not forget the ladies. From the blushing school girls of Lucy Cobb and the fair maidens of the State Normal to the lovely women who grace our homes—all add their share in making Athens beautiful and attractive.

We all welcome you, gentlemen, and the old saying, "the latch-string hangs on the outside of the door," is appropriate when you reach Athens. A hearty welcome is yours.

RESPONSE TO ADDRESSES OF WELCOME

Responses to the Addresses of Welcome were made by Dr. H. A. Mobley, of Vienna, and Dr. M. F. Ridley, of LaGrange.

DR. MOBLEY'S RESPONSE

To the Hon. Mayor, President Board of Trade, Local Medical Profession, Ladies and Gentlemen:

The warm words of welcome spoken by you are deeper and more significant than the usual formal greetings extended to assembled organizations. I wish to assure you that this large and representative body of Georgians appreciate the true spirit of hospitality you have expressed, and feel that they are fortunate in being your favored guests.

Many of us are in Athens for our first time and are impressed with the evidences of thrift and prosperity. To many others it is like a visit to an old home and recalls tender memories of the years spent here in their early ambitions youth, when the future to them was bright with promise and rosy with hope.

We are delighted to be in Athens, the city for so long a time the center of Georgia culture, which means the essence of Southern culture. One of the leading cities in the effort to foster the ambition of the youth of our beloved State and lead them to more elevated planes of education and advancement along all helpful lines, moral, social and political. From this city, and her institutions, have gone out young men who, having caught inspiration to encourage them to nobler efforts, and received training to meet and cope with life's problems, have in this State and all over the South, acquitted themselves like true men in every contest in which they have engaged, and proved themselves equal to every emergency they have met.

We are glad because of your lovely homes, famed for their culture and hospitality and presided over by your mothers, wives and daughters, who have been and are regarded with pride as models of pure womanhood. The names of your families for generations have been familiar upon the pages of history, both in state and nation, and many of your citizens as scholars, statesmen and

soldiers have added lustre to the fair name and fame of our beloved Southland. Such men and such deeds make a country or a city great, and as a municipality can not differ from its citizenry, we feel that to be the favored guests of such a city and such a people is truly worth the coming.

Professionally, we are on, or very near historic ground. Near this place there lived a man, a physician, whose simple life touched few outside of this section perhaps, and whose quiet retiring nature, while proving his true worth, actually prevented him from reaping in full measure the just fruits of his discovery, which meant more for the alleviation of human suffering than all others before or since.

And it was near this spot he stood as one divinely inspired, and by virtue of his genius, prompted by a desire to help humanity, reached into the ethereal mists and drew therefrom the thin veil of unconsciousness and with knightly grace presented it to the world of sufferers. And today the world over, wherever the pain of operation is relieved, and the pangs of the woman in travail are mitigated, a silent though soulful prayer ascends, and a heavenly benediction descends upon the home and memory of Crawford W. Long.

One of the most delightful numbers of this session's programme is the unveiling of a monument to this great and good man, on the ground where his first experiments were made. And as we look upon it, clean and white as his own spotless life, we know that the benefits of his immortal discovery will bless mankind long after this marble has ceased to endure. Its erection is a labor of love to the physicians of Georgia, and should stir the civic pride of those outside the profession, who realizing the beneficence of his labors, rejoice that a son of their native State, by the brilliant light of his genius, first led a suffering world to anaesthesia.

But allow me to say a word about ourselves, your

guests. You entertain a body of men who come from all over the State, the mountains of North Georgia, the traditional red hills of mid State and wiregrass section of South Georgia; from the laboratory, the office, the bedside, the open road. The specialist and the general practitioner elbow together, and for the time being all differences of professional duties and labors are obliterated—all are just doctors alike.

We do not come prompted by a spirit of commercial enthusiasm that promises either to you or ourselves material gain. We do not offer you stock in some new enterprise, or guarantee to boost the price of your real estate. And while it may not be complimentary to us to admit that we do sometimes neglect our own pecuniary interests, still it is true that they are often forced into the background by demands made upon our time in coping with disease, or relieving those in physical or mental distress.

Successes along these lines come to us frequently, but the world knows little of them, while our failures I may say are quickly buried beneath the sod of kind forgetfulness. But the great profession as a whole has wrought many things.

Since the day Jenner demonstrated that the loathsome disease smallpox could be almost banished from the earth, down to the present moment the efforts of the medical profession have been to make the bitter physical discomforts of the race more tolerable.

Note the almost complete eradication of the dreaded yellow fever during the present generation, and the successful fight now being waged against the great white plague that is sure to be fruitful of good results.

And, while nothing superhuman has been attempted, many things have been accomplished in the realm of medicine and surgery, that formerly would have been considered short of miraculous.

Hence it is that these members of the regular medical

profession are worthy objects of your hospitality, and are not spoiled by a little learning in the art of healing, nor puffed up with arrogant or jealous pride. I present them to you as men moving with conscious and respectful diginty, proud of the fact that they are members of our great profession, and striving to do each his part, to maintain the lofty standards of regular medicine.

Our days are alike and filled with more trials and disappointments than come to many, and so we are susceptible to kind words and gentle treatment. Your cordial words of welcome touch a responsive chord, and the end of our sojourn in your beautiful city will come altogether too soon.

Permit me again to thank you most sincerely, in behalf of the Medical Association of Georgia, for your warm words of greeting, and the hospitality you so generously offer us.

DR. RIDLEY'S RESPONSE

On behalf of the State Medical Association of Georgia, I thank you for this royal reception. It is with peculiar pride and pleasure that we assemble in the Classic City of the Empire State of the South, the flower of whose hospitality long ago blossomed into fullest fruition. We rejoice in the proud privilege of visiting this home of the beautiful and brave where, for more than a century, an enduring social charm has been linked to a deserved supremacy in letters and crowned with pre-eminence in culture.

Here, in these classic shades, where so many Georgians have started up that steep of learning, which happily has no royal road, some of this honorable body have received that stimulus to high endeavor which spurred to after success and happiness, and, uniting with them, I wish to acknowledge that deep and lasting obligation to the Alma Mater who kindled in our young minds those

deathless inspirations which have illumined the pathway of our life work.

It was here that we read in the ruins of that other Athens, which bequeathed to this city the splendor of her name, the matchless story of her fadeless fame, forever interlinked with all that refines the taste, broadens and deepens the reason, plumes imperial imagination for its sublimest flights, strengthens the will and exalts the soul! To her unborn sister in a distant age that ancient Athens left the luminous legacy of an untarnished crown. How proudly, yea, how worthily this modern City of the Violet Crown has worn that dazzling diadem let her regal record of a cycle give proofs.

Athens was Greece. In the glorious golden age of Pericles, all Greece gave back her greatness and renown to this heart of her ripest culture and her loftiest life. So in this modern Athens is the crystal, burnished mirror in which Georgia sees reflected the puissance of her mightiest souls!

Here is that Pierian spring from which the master spirits of the Empire State drank generous draughts in aspiring youth. Here was illumed that divine fire whose quickening flame has shed undying lustre upon the annals of our beloved State! In the violet eyes of this beauteous queen we read the stirring story of the deeds of her greatest sons.

But the proudest heritage vouchsafed to modern Athens by that Athens that was, was indeed the priceless legacy of her highest, her best ideals.

As this nonpareil city sits amid her classic shades pluming her young eagles for flight, she presents a grand and noble protest to the time-honored saying that Greece is living Greece no more! Not so the doleful strain which Byron tuned his lyre to sing:

"The Isles of Greece! The Isles of Greece!
Where burning Sapho loved and sung,
Where grew the arts of war and peace,
Where Delos rose and Phoebus sprung.
Eternal summer gilds them yet
But all except their sun is set!"

Ah, no, not all! What though Leonidas be dead,—his valor lives. What though Pericles be ashes,—the "fierce democracy" survives! What though Solon be a shade,—the laws which he gave live on! What though Sophocles be a memory,—the action of the noble drama goes on! What though Demosthenes be but a ghost—haunting—eloquence flows on whose pathos on the lover's lips doth melt the maiden's heart, whose fire doth still stir nations to their defense! What though the chisel has fallen forever from the hands of Phidias and Praxitiles—the brush from those of Parrhasius and Apelles,—the grace and grandeur that were Grecian art are eternal!

Though the very Parthenon be wrecked—architecture still rears its superb head! Though the immortal gods—themselves—which peopled the earth, the sea and the sky, are forever gone;—though Jupiter has lost his power to thunder, and Olympus be veiled in changeless gloom,—though Neptune sways his trident no more,—though Venus be a dream, and Minerva a memory;—though the olive has dropped from Athen's nerveless hand, the laurel withered on Apollo's cold and beauteous brow,—

Still, love and beauty and power and wisdom and strength and greatness inhabit the earth, and the Most High reigns with a glory that gilds the very gloom of the grave! "That glory that was Greece" shines on! The caskets are but shattered, the jewels yet remain to brighten and to bless.

Behold in this your city of the Violet Crown the embodiment of the highest, best ideals of that antique civili-

zation! Ideals which for a hundred years have uplifted all who have come within her gates! Ideals which proclaim to all the world:—

"Ignorance is the curse of God,—Knowledge the wing wherewith we fly to heaven!"

The purple sails no longer kiss the soft Aegean breeze, but that air is still as gentle! The last Spartan has been borne upon his shield, but the honey of Hymettus is still as sweet! The skies of velvety azure still bend above that Sapphire Sea,—the wondrous colors still come and go upon those mountain sides,—the same stars shine as lovingly o'erhead as when "Athens arose such a city as vision builds of empurpled crags and silvery towers battlemented as in derision of Kingliest Masonry!" Even this modern queen now going on conquering and to conquer, shall one day see her "Violet Crown" crumbling in the dust, her earliest throne a tottering memory, her latest oracle a troubled dream!

What matter?

If we work in marble, time will wreck it. If we write on blazoned brass, years will efface it. If we trace with most exquisite hand upon the canvas the fairest forms which ever graced the most princely fancy since creation's dawn, the gnawing tooth of the ruthless ages will devour them.

But if we imprint upon the living souls of aspiring youth the loftiest principles, and the noblest ideals, we record there something that will brighten to all eternity!

HOUSE OF DELEGATES

Morning Session—April 20th, 1910

Meeting called to order by President McArthur.

Dr. Fullilove, chairman of the Committee of Arrangements, reported for his committee. His report is em-

bodied in the souvenir program, prepared by his committee.

Dr. L. G. Hardman, chairman of the Committee on Scientific Work, being absent, the report was made by the Secretary.

The bulletins of the Association for April embraced this report. It was adopted as the order of business for this session.

Moved by Dr. Daly, that a vote of thanks be tendered the Committee of Arrangements.

Carried.

The report of the Council was made by Dr. E. C. Davis, chairman.

The report of the Committee to solicit funds for the Long statue was made by Dr. Westmoreland, chairman.

Authority was given him to go outside the profession and appoint sub-committees.

Moved to adjourn until immediately after the afternoon session.

Carried.

Afternoon Session—April 20th, 1910

Meeting called to order by President McArthur.

The Chairman being absent, there was no report from the Committee on Necrology.

The Chairman being absent, there was no report from the Committee on Public Policy and Legislation.

Dr. Davis, chairman of the Council, made report of that body concerning charges against Fly Committee.

Meeting of Council

April 20th, 1910.

Present: Drs. Davis, Hardman, Pilcher, Fullilove, Hiers and Calhoun.

Dr. Dean appeared before the meeting on being notified that charges had been preferred against his committee (Fly Committee) and made his defense and stated

that the circular complained of was gotten out without his knowledge or consent, and showed a copy of circular which was sent out under his direction which committee accepted as thoroughly ethical. On motion of Dr. Fullilove charges against Dr. Dean (personally) were dismissed.

Dr. J. W. Palmer was called in connection with same Fly Circular and appeared, and stated that he was misled by an advertisement sent out by some company and submitted letters and correspondence bearing on case exhonerating both Drs. Paullin and Bassett from any connection in the matter.

Dr. Paullin made his statement explaining that the objectionable circulars were gotten out without his knowledge or consent giving a thorough and complete resume of the transaction. Dr. Paullin submitted communications from the Board of Censors of Fulton County Medical Society fully exhonerating him.

Dr. Curtis appeared and made his statement admitting some careless and inadvertent action in regard to the issue of this circular issued by the West Disinfectant Co.

Dr. Dean was recalled and asked about the endorsement of putting advertisements on circulars, who stated that he did not understand it as an advertisement.

Bill stenographic report amounting to $32.25 on motion of Dr. Pilcher ordered paid.

Dr. Pilcher moved that Chairman of Council exhonorate Dr. Bassett and Dr. Paullin entirely, and both Dr. Palmer and Dr. Curtis be censured, and Dr. Dean, chairman of Committee, for omission rather than commission, and that he exhonorate them of any intentional wrong, and that their local Societies deal with them as may be just and proper, and draw up report to that effect, and present to House of Delegates.

Carried.

Dr. J. G. Dean, chairman of the Fly Committee, reported two (2) meetings—one last summer and one

January 1910. Owing to lack of funds the work was hampered.

Moved that the report be received.

Carried.

A resolution as follows was introduced by Dr. Daly, of Atlanta:

Be it Resolved, That the Medical Association of Georgia authorize its Committee on Public Policy and Legislation to investigate the laws relating to the committment and care of the insane, and to take such action as will bring them in accordance with modern scientific procedure.

Carried.

The resolution of Dr. Terrel amending Article 4, section 2, of the Constitution, failed to pass.

Resolution of Dr. George B. Smith was referred to the Committee on Public Policy and Legislation:

RESOLVED, That the Committee on Public Policy and Legislation be requested to urge the enactment of laws governing the question of vaccination and quarantine in Inter-County emigration.

Carried.

Resolution of Dr. Hardman as follows:

WHEREAS, The discoveries and works done by the Georgia doctors constitute a distinct and important link in the history of medicine in the world:

Therefore, Be it resolved that a committee of five (5) be appointed by the President of this Association to consider and devise a plan for a memorial to these distinguished men and set forth the right to the priority in the discovery of these fundimental principles in the great science of medicine.

Carried.

Committee to be appointed by the President.

Adjourned.

HOUSE OF DELEGATES

Friday, April 22d, 1910

Meeting called to order by President McArthur.

The President spoke of his efforts to get the Committee on Public Policy and Legislation to arrange their work and have it in readiness. He commended the work of Dr. Olmstead, the chairman of that Committee.

Dr. Davis, chairman of the Board of Councilors, made his report as follows:

Board of Councilors

Friday, April 22d, 1910.

Council met at 10:00 a. m., every District being represented.

Report of Councilors called for.

Dr. Calhoun made full written report.

All other Councilors reported verbally.

Motion was made that all reports be sent to the Secretary of the Association in writing at once.

Dr. Davis reported on District work.

Dr. Claude Smith was called to explain bill of Foote & Davies Printing Co., and stated that there were some orver-charged items on bill that could be reduced or taken off altogether and could be adjusted with a saving of $200..00 or $300.00.

On motion of Dr. Pilcher, Dr. Claude Smith acting with Dr. Lyle, was requested to look after and have the matter corrected and properly adjusted.

Motion, Dr. Hardman, all copies of Transactions of 1908 now in Secretary's office be sent out to those members asking for them, and this fact be published in next issue of bulletin, also that President be requested to make this announcement from the Rostrum.

Dr. Smith was requested to see Dr. Lyle and adjust matter of salary of 1909, and report to Council immediately.

Motion Dr. Fitts, the President, Dr. McArthur was requested to hand to Council bill of actual expenses incurred in interest of Association, and same would be ordered paid by Council.

Committee of three (3) was appointed to adjust all matters pertaining to salary and expenses of Drs. Smith and Lyle.

Dr. Davis reported that he and Dr. Drewry had audited the bills, accounts and books of the Secretary and found them correct and accurate.

Motion Dr. Pilcher, Chairman was requested when making his report to Association to explain the causes leading up to and governing Dr. Smith's resignation.

Motion Dr. Herrman, all speeches and reports be limited to five minutes each.

Motion Dr. Hardman, a committee of three (3) be appointed to send to Dr. A. W. Calhoun a message of sympathy and that same be read before Session. Dr. Herrman, Hardman and Fitts.

Bill for expenses of Government exhibit was presented by Dr. Fullilove and was ordered paid.

Resolution that State Medical Association extend thanks to both the cities of Athens and Jefferson for their most pleasant and cordial entertainment during our meeting.

We, the Councilors, after a free and full consideration of the house-fly charges as brought against the members of that committee, having knowledge of the advertisements on the circular, find, that while the advertisements contained in the circular were irregular and un-ethical, we believe the accused members were acting as they thought for the best interest of the Association, and at the same time having in mind the saving of expense to the Association, and

We the Board of Councilors in our previous report never insinuated or stated that we found the accused members of this Committee guilty of anything more than

an error of judgment, and we see no reason to change our minds in that respect.

But we the Board of Councilors are willing and anxious that these members be retained in full and free fellowship of the Association, provided the component Societies to which the gentlemen are amenable find no cause to take other action.

We also find that Dr. J. E. Paullin and Dr. J. H. Bassett had no knowledge whatsoever of the issuing of the circular, and are completely exhonorated as far as our jurisdiction is concerned.

Resolutions by the Board of Councilors

WHEREAS, The Jackson County Medical Society, and the City of Jefferson, Ga., did on the 21st day of April 1910, generously, cordially and enthusiastically entertain the Medical Association of Georgia on the occasion of our visit to the unveiling of the marble shaft to the memory of Dr. Crawford W. Long,

Whereas, One of her distinguished and favored sons Dr. L. G. Hardman, fired by feelings of patriotism and and friendship, and in justice to the memory of that great benefactor, Dr. Crawford W. Long, the discoverer of Ether Anaesthesia, so nobly took on himself, to thus honor at his own expense, the erection of this magnificent shaft;

BE IT RESOLVED—

1st. That the Medical Association of Georgia hereby tenders its thanks, its gratitude, its sincere appreciation, of this continued reminder of the greatness and the glory and the good that was in Dr. Long, and the benefit to mankind in his discovery, likewise tenders its gratitude to Dr. Hardman for the impulse prompting the gift.

2nd. That we tender our thanks to the City of Jefffer-son, and the Jackson County Medical Society, for the genuine Georgia welcome extended us, and their generous

hospitality in entertaining us, assuring them that the day sepnt in their midst will always abide and be to each of us a pleasant memory.

3rd. That the Jeffreson papers, the papers of the City of Athens and the press of the State generally print these resolutions, and the Secretary of this Association send copies to Dr. L. G. Hardman, the family of Dr. Long, to the City of Jefferson, Ga., and to the Jackson County Medical Society.

Signed E. C. DAVIS,
J. LAWTON HIERS,
W. W. PILCHER,
Committee.

Carried.

WHEREAS, Our stay in the City of Athens has been so pleasant and profitable;

Resolved, That to those contributing thereto—the Clarke County Medical Society, the Chamber of Commerce, the railroads and citiens of the city, individually and colectively, the thanks of the Medical Association of Georgia are hereby extended.

Signed E. C. DAVIS,
J. LAWTON HIERS,
W. W. PILCHER,
Committee.

Carried.

It is with regret that we learn of the painful and seroius illness of Dr. A. W. Calhoun, a faithful and pioneer member of this Association, and we request that the Secretary of this Association write Dr. Calhoun a personal letter, expressing to him the deep and sincere sympathies of this entire body in his hour of suffering and confinement.

Signed W. L. FITTS,
J. D. HERRMAN,
W. B. HARDMAN,

The Committee on Tuberculosis reported through its Chairman, Dr. Pumpelly, as follows:

President and Medical Association of Georgia, Gentlemen:

We, the members of the Committee of Tuberculosis, desire to make the following report of our work. Our first meeting was held in Atlanta, Ga., August 17, 1909.

At that meeting the following was adopted:

(Minutes)

The Committee held its first meeting in Atlanta, on August 17th, 1909. Dr. R. R. Kime, of Atlanta; Dr. C. H. Richardson, of Montezuma; Dr. E. E. Murphey, of Augusta, and Dr. W. C. Pumpelly, of Macon, being present. Dr. Walter Wilson, of Savannah, was unable to attend. Dr. Kime was elected chairman and Dr. Pumpelly, secretary.

After considering various ways of proceeding in our campaign of educating the public in the prophylaxis of tuberculosis, the committee decided that most good could be accomplished by giving lectures in the public schools, by issuing pamphlets to be used in the 7th and 8th grades as a part of the course of study, and by supplying the schools with posters or wall-charts for the 4th and 5th grades. It was thought advisable to recommend to the State Superintendent of Education that a day be set apart in the school year to be known as Health Day; and at this time lectures could be given by the members of the local society. Dr. Kime conferred with the State Superintendent of Education, who seemed agreeable to the plan, and suggested that the Committee put into his hands at an early date a bulletin or program, for Health Day; also, posters for the school rooms.

It was the opinion of the Committee that if the notification and registration of tuberculosis cases could be inaugurated, and made compulsory upon local authorities it could not but be productive of good. "Since Tuberculosis is known to be an infectious and communicable

taken towards controlling it would be to require each case to be promptly reported to the proper authorities as is done with other communicable diseases." And that this might be accomplished it was decided that the following recommendations be made to the State Association at its next meeting:

That county Boards of Health be established in all counties in this State, and that the Association request the State Board of Health to exercise its authority in the establishment of said Boards.

That a bill be introduced in the General Assembly to make it compulsory upon all county and municipal Boards of Health to require the reporting and registering of all tuberculosis cases occurring in their jurisdiction and that they make regular report of the same to the State Board of Health; and that said Boards be required to furnish all tuberculosis cases with pamphlets setting forth such rules and information as may help the affected one to care for himself, and prevent his infecting other members of the household. Said pamphlet to first receive the endorsement of the State Board of Health or local Board of Health.

That all houses that have been occupied by tuberculosis cases be fumigated, and that the fumigation be made obligatory upon the owner of the premises.

That persons who are known to be tubercular shall not be allowed to teach in the public schools, and that a school quarantine be established against known tuberculosis children.

And that a bill be introduced to provide for regular dairy and cattle inspection throughout the State, and for the medical inspection of schools.

It was agreed that an effort be made to organize a State Society, to be known as the Georgia Anti-Tuberculosis and Sanitary Society; the organization to be started through the Mayor and Council of the cities and

towns, Boards of Health, Boards of Education, Medical Societies; and all the local organizations, societies, churches, etc., be urged to become charter members.

The following resolutions were offered and adopted:

That the Secretary write the Chairman of the Georgia Board of Health, advising him of what we propose to do, stating that our Committee hopes to work in harmony with the State Board.

That the Secretary supply the Secretary of the State Medical Association, through our Chairman, with an outline of our proposed work, for publication in the Association Bulletin.

Dr. Murphey and Dr. Pumpelly were appointed as a committe to arrange a wall chart to be used in the schools.

DR. R. R. KIME, Atlanta, Chairman;
DR. E. E. MURPHEY, Augusta,
DR. C. H. RICHARDSON, Montezuma,
DR. WALTER WILSON, Savannah,
DR. W. C. PUMPELLY, Macon, Secty.,
Committee on Tuberculosis Medical Assn. of Ga.

The Committee on Tuberculosis recognizing the inadequacy of the present laws of the State of Georgia, in as much as they make no provision by which it is possible for any county to maintain an institution for the care of the tuberculosis poor, we therefore urge that the House of Delegates request the Committee on Legislation to take up this matter at the coming session of the Legislature, and have such amendments to the present laws passed as will render the maintainance of such institutions where desired possible.

The Committee through its Chairman and Secretary took up the work as outlined and invited every county Medical Society, every city through it mayor and general council, board of health, and board of education throughout the state to join in this work.

The Governor and all ex-Governors endorsed the work,

also the President of the Medical Association of Georgia, the President of the State Federation of Trades, the President of the Woman's Federation of Clubs, et cetera.

We have the pledge of the support of the Woman's Clubs throughout the State, which will be a very important factor in pushing the work to a success.

A meeting was held in Atlanta on January 17th, 1910, to which the public generally were invited, and organizations as above named, at which a State Anti-Tuberculosis and Sanitary Society was organized, and officers elected as follows:

President—Mr. T. D. Tinsley, Macon, Ga.
First Vice-President—Capt. W. G. Raoul, Atlanta, Ga.
Second Vice-President—Mr. S. J. Powers, Rome, Ga.
Third Vice-President—Dr. R. P. Izlar, Waycross, Ga.
Secretary-Treas.—Dr. Wm. C. Pumpelly, Macon, Ga.
Executive Committee—Dr. R. R. Kime, Atlanta; Dr. Craig Barrow, Savannah; Mrs. H. M. Willet, Atlanta; Dr. J. T. McArthur, Cordele, and Mr. Emory Winship, Macon, Ga.

A program of the meeting accompanies this report, also the Constitution and By-Laws adopted at this meeting.

We find very difficult and slow work to arouse the general public to an active interest in the work. Some of the cities have local organizations doing local work, Atlanta, Augusta, Macon, Waycross and others. While these are doing good work, the Committee desires to see every city or county organized for local work in conjunction with the state work. To accomplish this it will require time and the expenditure of money. We hope the Medical Association of Georgia will set apart a fund for the prosecution of this work, and distribution of literature.

The local socities where organized, are supplying local literature, but State work needs to be done along educa-

tional lines for the general public, and in the schools of the State. Respectfully submitted,

COMMITTEE ON TUBERCULOSIS.

Wm. C. Pumpelly, Secretary.

The report was received.

The following resolutions of Dr. Westmoreland were adopted:

WHERAS, Medical education in Georgia is retarded by the lack of preparation of first-year men owing to inadequate high school facilities in this state directly due to Constitutional restrictions preventing county or state aid to high schools, and.

Whereas, Hon. G. Ogden Persons has introduced bills in the General Assembly looking to the removal of these restrictions;

Be It Resolved, Frist, That the Georgia Medical Association approves of these proposed amendments not only as tending to improve the general cause of education in this state but as also vitally helping the medical profession by enabling higher standards of preparation;

Resolved, Second, That the members be requested to urge upon their several representatives the importance of supporting the proposed amendments.

Carried.

WHEREAS, There has been presented to the attention of the Georgia Medical Association the advertising literature of the West Disinfecting Company, known as the "Fly Circular" or card.

The caption of their literature would imply that it was issued by or under the auspicies of the Georgia State Board of Health.

The Georgia State Board of Health has in a communication to this body, stated that it has never authorized the use of its name to any firm, committee, or individual, for any purpose whatsoever—

Therefore Be It Resolved, That this Association de-

sires to put itself on record as condemning this unprincipled and deceptive method of advertising the West Disinfecting Company products, and further desires to call the attention of the profession and the laity to this action.

The following resolution, introduced by Dr. H. H. Martin, was adopted:

In view of the well-known fact that ophthalmia neonatorum is responsible for one-third of all cases of blindness in the world today, and that it is, of all infectious diseases the most easily preventable, the House of Delegates of the Medical Association of Georgia recommends that the Committe on Legislation be instructed to secure the enactment of a State law embodying the following points:

First, That in all institutions supported wholly or in part by any county city or town in the State of Georgia, the use of a prophylatic against this disease be made compulsory.

Second, That in private practice all midwives practicing in the State of Georgia shall be required to register with the nearest local health officer, who shall issue to such midwife a certificate of registration, and that it shall be unlawful for any midwife to practice in the State of Georgia without such certificate.

Third, That the use of a prophylactic against opthalmia neonatorum be made compulsory in all cases attended by any midwife.

Fourth, That the use of a prophylactic against this disease in the private practice of any legally qualified physician be left entirely to the discretion of such physician.

Fifth, That the State Board of Health of Georgia be required to furnish free on application from any registered midwife or physician in the State of Georgia a small compact outfit containing a small ampule of the prophylactic, a sterilized dropper, and printed instructions for the use of same.

Sixth, That the Crede method be adopted as the official method of prophylaxis against this disease in Georgia.

The following resolution, introduced by Dr. Waring, was adopted:

We, the members of the First Congressional District Medical Society, in session at Statesboro, Ga., January 26, 1910, respectfully submit the following:

Resolved, That the house of delegates of the Medical Association of Georgia direct the Committee on the Medical Legislation of the State Association to investigate the present statutes that apply to expert testimony; and, to formulate such laws and submit them to the State Legislature which would render expert testimony of more value before the Courts of Common Laws.

It Is Further Suggested, That a means could be applied by having a State Commission of experts, appointed by the Governor, or elected by the State, whose duty would be to pass on Medico-Legal questions.

Resolved, Further, That we recommend the formation of a branch society of the State Medical Association to meet once or twice a year for the purpose of offering papers, and discussing questions and subjects in reference to Medical Jurisprudence.

Resolved Further, That in order to facilitate the formation of laws concerning Medical Jurisprudence, we recommend that the State Association invite members of the Bar Association of Georgia to meet conjointly with them for the purpose of discussing Medico-Legal questions.

T. P. WARING, Chairman;
C. M. RAKESTRAW,
J. L. HIERS,
Committee.

The following resolution, introduced by Dr. J. Lawton Hiers, was adopted:

WHEREAS, There is now pending before the United States Senate a Bill, No. 6049, by Hon. Robert L. Owen,

of Oklahoma, providing for the establishment of a National Department of Health, which is so essential to the general well being of this country, and

Whereas, The aforesaid bill has been endorsed by our National Medical Association, and many of our sister State Medical Associations;

Be It Reselved, That the Medical Association of Georgia do in meeting assembled, hereby endorse United States Senate Bill No. 6049, or any proper substitute therefor, and further that our Secretary be instructed to so notify the Hon. Robert L. Owen, the United States Senators and Congressmen from Georgia, and request that they support the aforesaid bill.

Resolution by Dr. McArthur that only one member of the Committee on Public Policy and Legislation be appointed each year, was tabled.

The Medical Practice Bill, as follows, was recommended by the House of Delegates:

A BILL—To be entitled an Act to establish a Board of Medical Examiners for the State of Georgia; to define its duties and powers; to protect the people from illegal and unqualified practitioners of medicine and surgery; to regulate the issuing and recording of licenses; to define what is considered the practice of medicine; to fix fee for license; to provide for the revocation of license; to require a standard of preliminary education of applicants; to prescribe penalties for the violation of this Act; and for other purposes.

Section 1. Be it enacted by the General Assembly of Georgia, and it is hereby enacted by authority of the same, That a board is hereby established, to be known by the name and style of the State Board of Medical Examiners. Said board shall be composed of nine practicing physicians of integrity and ability, who shall be residents of, and have been duly licensed to practice medicine in this state, and who shall have graduated from medical schools of high educational requirements and

standing, and have been engaged in the active practice of their profession within this state for at least a period of five years; but none of them shall be connected in any way with any medical college. Said board shall perform such duties, and posess and exercise such powers, relative to the protection of the public health and the control and regulation of the practice of medicine in this state as shall be in this Act prescribed and conferred upon it.

Sec. 2. Be it further enacted, That the Governor shall within thirty days after the passage of this Act, appoint nine physicians, who shall, possess the qualities specified in Section 1 of this Act to constitute the members of this board. One member of the board shall be an osteopathic physician, one a homeopathic, two electics and five regular or allopathic physicians, all to be appointed by the Governor from lists of three names for each vacancy, furnished respectively by the State society or association of each school or system of practice. The successor of each member shall be appointees in the same manner. Said members shall be so classified by the Governor that the term of office of three shall expire in two, three in four, and three in six years from the date of appoinment. Biennially thereafter, the Governor shall appoint three members, each shall serve for the term of six years. Any vacancy that may occur in said board, in consequence of death, resignation, removal from the State or from other cause, shall be filled for the unexpired term by the Governor. A majority of the board shall constitute a quorum.

Sec. 3. Be it further enacted, That immediately and before entering upon the duties of said office, the members of said board shall take the constitutional oath of office, and shall file the same in the office of the Governor of the State, who, upon receiving the said oath of office, shall issue to each member a certificate of appointment.

Sec. 4. Be it further enacted, That immediately after

the appointment and qualification of said members, said board shall meet and organize. Said board shall elect a president and a vice-president from the membership, and a secretary-treasurer, who shall not necessarily be a physician and who by virtue of his office shall be an ex-officio member of the board, whose term of office shall be the same as other members of the board and whose salary shall be $2,000.00 per annum. While in performance of their duties while in session, each member of the board shall be paid twenty-five dollars per day, in addition to all their necessary expenses, which shall be paid by the board. All funds of the board be turned into the treasury of the State, and the same shall be placed to the credit of said board, subject to their draft. Said board shall hold two regular meetings in each year. One meeting shall be held on the first Tuesday in May and the other on the second Tuesday in October. Call meetings may be held at the discretion of the president. The regular meetings shall be held at the Capitol building, in Atlanta. Said board shall adopt a seal which must be affixed to all licenses issued by them. They shall, from time to time, adopt such rules and regulations as they may deem necessary for the performance of their duties. And shall examine and pass upon the qualification of applicants for the practice of medicine in this State, as herein prescribed.

Sec. 5. Be it further enacted, That any person wishing to obtain the right to practice medicine in this State, who has not heretofore been licensed so to do, shall, before it shall be lawful for him to practice medicne in this State make application to the board, through the secretary-treasurer thereof, upon such form and in such manner, as shall be adopted and prescribed by the board and obtain from the board a license so to do. Unless each person shall have obtained a license as aforesaid, it shall be unlawful for him to practice in this State; and if he shall practice medicine in this State without first

having obtained such a license, he shall be deemed to have violated the provisions of this Act. All applicants for a license to practice medicine or for a renewal of any such license which has been revoked, shall furnish the board with evidence of good moral character. Applications from candidates to practice medicine and surgery in all their branches shall be accompanied with proof that the applicant is a graduate of a legally incorporated medical college or institution in good standing with the board. The board shall have the power to revoke the certificate granted to any applicant who makes any misstatement of fact in his application for examination. Each applicant shall name his system of practice and no person shall use the name of any system unless he holds a certificate from the board.

Sec. 6. Be it further enacted, That before any person who obtains a certificate from said board may lawfully practice medicine and surgery in this State, he shall cause the said certificate to be recorded in the office of the Clerk of the Superior Court of the county in which he resides. The certificate shall be recorded by the clerk in a book kept for that purpose. It shall be indexed in the name of the person to whom the certificate is granted. The clerk's fee for recording a certificate shall be the same as for recording a deed. The clerk shall make a report to the secretary of the board on the 31st of December each year, of all certificates registered with him. Each applicant receiving a certificate from the board shall cause same to be registered within thirty days.

Sec. 7. Be it further enacted, That said board shall be empowered by this Act to pass upon the good standing and reputability of any medical college. Only such medical colleges will be considered in good standing that possess a full and complete faculty for the teaching of medicine, surgery and obstetrics in all their branches; that afford their students adequate clinical and hospital facilities; that require attendance upon at least 80 per

cent. of each course of instruction; that gives four graded courses of instruction, the aggregate of which amounts to at least one hundred and sixteen weeks, exclusive of holidays, of at least forty hours each week, and at least forty-two months must have lapsed between the beginning of the student's first course of medical lectures and the date of his graduation, each session composed of twenty-nine weeks of actual instruction, with at least 60 per cent. of laboratory instruction in the first and second years and a minimum of 50 per cent. of clinical work in the third and ourth years; that require an average grade in each course of instruction of at least 75 per cent. in examination as a condition of graduation; that fulfill all their published promises, requirements and claims respecting advantages to their students and the course of instruction; that require a preliminary educational requirement equal to that specified by this Act; that require students to furnish testimonials of good moral standing; and that give advanced standing only on cards from accredited medical colleges. In determining the reputability of a medical college the right to investigate and make a personal inspection of the same is hereby authorized.

Sec. 8. Be is further enacted, That beginning with the session of 1911 and 1912, each medical school or college in good standing with the board shall have a preliminary educational requirement for the admission of students, to-wit: a certificate of graduation from an accredited high school, (as published in the catalogue of each State university) State normal school, college, university, academy, or a certificate from a county school commissioner certifying that he has satisfactorily passed an examination equivalent to that of an accredited high school.

Sec. 9. Be it further enacted, That in the discretion of the secretary-treasurer of said board he may issue temporary license to an applicant, which shall have the

same force and effect of a permanent license until the next regular meeting of the board, when said license shall become void. Said license shall not be recorded.

Sec. 10. Be it further enacted, That examination of applicants for license to practice medicine shall be made by said board according to the methods deemed by it to be the most practicable and expeditious to test the applicant's qualifications. Each applicant shall be designated by a number instead of his name so that his identity shall not be disclosed to the members of the board, until after the examination papers are graded. Examinations shall be as follow: anatomy, physiology, chemistry, pathology, surgery, obstetrics, practice, pediatrics, and other subjects in the discretion of the board.

Sec. 11. Be it further enacted, That there shall be paid to the secretary-treasurer of said board by such applicant for a license by examination, a fee of twenty dollars, which shall accompany the application. The same fee shall be charged for issuing a temporary license; and a fee of fifty dollars shall be charged for issuing a license by reciprocity. No part of any fee is returnable under any circumstances. Nor shall this Act be construed as effecting or changing, in any way, laws in reference to license tax to be paid by physicians and surgeons.

Sec. 12. Be it further enacted, That said board shall have authority to administer oaths, to summon witnesses and to take testimony in all matters relating to its duties. Said board shall issue licenses to practice medicine to all persons who shall furnish satisfatory evidence of attainments and qualifications under the provisions of this Act and the rules and regulations of the board. Such license shall be signed by the president and attested by the secretary-treasurer of the board under its adopted seal, and they shall be absolute authority to the persons to whom they are issued to practice medicine in this State. It shall be the duty of the secretary-treasurer

under the direction of the board, personally or by deputy, to aid the solicitors of the State in the enforcement of this Act and in the prosecution of all persons charged with violatin any of its provisions.

Sec. 13. Be it further enacted, That said board may refuse to grant or may revoke a license to practice medicine in this State, or may cause a licentiates name to be removed from the records in the office of any recorder of deeds in the State on the following grounds, to-wit: the employment of fraud or deception in applying for a license or in passing the examination provided for in this Act; the practice of medicine under a false or assumed name, or the impersonation of another practitioner of a like or different name; the conviction of a crime involving moral terpitude; habitual intemperance in the use of ardent spirits, narcotics or stimulants to such an extent as to incapacitate for the performance of professional duties duties; the procuring or aiding or abetting in procuring a criminal abortion; the obtaining of a fee on representation that a manifestly incurable disease can be permanently cured; causing the publication and circulation of an advertisement of any medicine by means whereby the monthly periods of women can be regulated; or the menses, if suppressed, can be re-established; causing the publication and circulation of an advertisement relative to any disease of the sexual organs. Said board may at anytime within two years from the refusal or revocation of a license or cancellation of registration under this section, by a majority vote, issue a new license or grant a license to the person affected, restoring or conferring all the rights and privileges of and pertaining to the practice of medicine as defined and regulated by this Act. Any person to whom such rights and privileges have been so restored shall pay to the secretary-treasurer a fee of twenty dollars on the issurance of a new license.

Sec. 14. Be is further enacted, That the terms "prac-

tice of medicine," "to practice medicine," "practicing medicine" and "practice medicine," as used in this Act, are hereby defined to mean holding ones-self out to the public as being engaged within this State in the diagnosis and treatment of diseases or injuries of human beings; or to suggestion, recommendation or prescribing any form of treatment for the inteded palliation, relief or cure of any physical or mental ailment of any person, with the intention of receiving therefor, either directly or indirectly, any fee, gift or compensation whatsoever; or to maintenance of an office for the reception, examination and treatment of any person suffering from disease or injury of body or mind; or attaching the title "M.D.," surgeon, doctor, or any other word or abbreviation to his name indicative that such person is engaged in the treatment or diagnosis of the disease or injuries of human beings. If any person shall hold himself out to the public as being engaged within this State in the diagnosis and treatment of diseases or injuries of human beings; or shall suggest, recommend or prescribe any form of treatment for the palliation, relief or cure of any physical or mental ailment of any person with the intention of receiving therefor, either directly or indirectly, any fee, gift or compensation whatsoever; or shall maintain an office for the reception, examination and treatment of diseased or injured human beings; or shall attach the title "M.D.," surgeon, doctor, or any other word or abbreviation to his name indicative that he is engaged in this State in the treatment of diseased or injured human beings; and shall not in any of these cases, theretofore have received, shall not in any of these cases, then possess, in full force and virtue, a valid license to practice medicine under the laws of this State, he shall be deemed to be practicing medicine without complying with the provisions of this Act and in violation thereof. Nothing in this Act shall be construed to prohibit gratiutous service in the cases of emergence, nor the practice of the religious tenents or general beliefs of

any church whatsoever, not prescribing medicine or administering drugs. Nor shall it apply to commissioned surgeons of the United States Army, Navy or Public Health and Marine hospital service, while so engaged, nor to regular licensed physicians called from other states or territories to attend to special cases in this State, nor to the practice of denistry, nor midwives and nurses.

Sec. 15. Be it further enacted, That any person guilty of practicing medicine in this State, without complying with the provisions of this Act, or any person who shall have violated the provisions of this Act, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished, as for a misdemeanor according to Section 1039 of the Civil Code of Georgia, Volume III. Any person presenting or attempting to file os his own, the diploma or certificate or credentials of another, or who shall give false or forged evidence of any kind to the board, or any member thereof, in connection with an application for a license to practice medicine or shall practice medicine under a false or assumed name, or shall falsely impersonate another practitioner of a like or different name, shall be deemed guilty of a felony, and upon conviction thereof shall be punished by a term from two to five years in the penitentiary of this State, subject to the provisions of Section 1039 of the Penal Code.

Sec. 16. Be it further enacted, That on investigation of an applicants credentials said board shall, when convienced that he is qualified to practice medicine, grant him a license without further examination.

Sec. 17. Be it further enacted, That all laws and parts of laws in conflict with this Act, and the same are, hereby repealed.

Resolution by Dr. Westmoreland, abolishing the subscription banquet, was carried.

A motion by Dr. Floyd W. McRae to amend the Con-

stitution, article ix, section 3, line 2, by striking out the words "and without nomination" after by ballot.

Tabled.

Resolution introduced at previous meeting changing the hour for the election of officers from 3:00 p. m. until 5:00 p. m. of the second day of the Annual Session, was passed.

MINUTES OF THE ASSOCIATION

BUSINESS SESSION

Athens, Georgia, April 21, 1910

The Association was called to order by the President, Dr. Thomas J. McArthur, of Cordele.

Report of the House of Delegates. (Read by the Secretary).

Dr. W. F. Westmoreland, Atlanta, moved that the report be adopted except that portion which referred to the Fly Committee, and this be taken up for their consideration. This was seconded, and then adopted.

After considerable discussion it was moved and seconed that the whole matter be referred back to the Council for action. This was carried.

The President made the Annual address.

Athens, Georgia, April 22, 1910

The Association was called to order by the President, Dr. Thomas J. McArthur, of Cordele, at 9:00 a. m.

Report of the House of Delegates. (Read by the Secretary).

Dr. Clark moved that the report of the House of Delegates, with the exception of the place of meeting of the Medical Board, be adopted. This was seconded and carried.

Dr. Clark then moved that the Medical Board should meet in Macon, rather than in Atlanta. After considerable discussion, this was carried.

Dr. Kime moved that residents of the State of Georgia who had been refused a license should not only pay another fee of twenty dollars ($20.00) but should not be allowed a license without another examination. This was seconded and carried.

It was also moved and seconded that the salary of the Secretary of the Board of Medical Examiners be fixed by the members of the Board. This was carried.

Afternoon Session—April 22, 1910

The afternoon session of the Association was called to order by the President, Dr. Thomas J. McArthur, of Cordele.

Te report of the House of Delegates was read by the Secretary.

It was moved and seconded that the report be adopted, except that part which related to the time of electing the officers. This was carried.

Dr. Pilcher then read the resolution adopted by the Council. It was moved and seconded that this be adopted. This was carried.

Dr. Hardman read a resolution regarding the illness of Dr. Calhoun. His resolution was seconded and carried.

It was moved, seconded and carried that papers read by title should appear in the Transactions. This was the ruling of the Chair.

MINUTES OF GENERAL SESSION

Athens, Georgia, April 20, 1910

Forty Years in the Study and Practice of Medicine in Georgia—Dr. V. D. Lockhart, Mayesville.

The Doctor, the Public, and Medical Legislation—Dr. J. G. Dean, Dawson.

Discussed by Dr. Welchel, Douglas, and Dr. Adair, Atlanta.

The Georgia State Sanitarium—Dr. Thos. R. Wright, Augusta.

Discussed by Drs. Jones, Milledgeville; Mobley, Milledgeville; L. G. Hardman, Commerce, and Clarke, Macon.

Pellagra—Dr. J. W. Mobley, Milledgeville.

Discussed by Drs. Taylor, Atlanta; Hardman, Commerce, and Smith, Atlanta.

The Municipal Control of Tuberculosis—Dr. R. P. Izlar, Waycross.

Discussed by Drs. Daly, Atlanta; Anderson, Pinedale; Hardman, Commerce; Toepel, Atlanta; Allen, Hoschton; Stoval, Vienna, and in closing by the essayist.

Some End Results of Non-Removal of the Appendix in Twenty-three Abscess Cases—Dr. R. M. Harbin, Rome.

Treatment for Chronic Discharging Ears—Dr. F. P. Calhoun, Atlanta.

Discussed by Drs. Slack, LaGrange; Lokey, Atlanta; Graham, Ellijay; Daly, Atlanta; and in closing, by the essayist.

Elimination, Our Safeguard—Dr. B. P. Oliveros, Savannah.

Discussed by Dr. Carlton, Savannah.

Report of an Unusual Case of Pneumonia—Dr. J. E. Sommerfield, Atlanta.

Discussed by Dr. Edge, Toccoa.

Wednesday Evening Session—April 20, 1910

Hook Worm Eradication—Dr. L. J. Sharp, Commerce.

Hook Worm in Georgia, Infection and Its Prevention—Dr. Claude A. Smith, Atlanta.

Hook Worm Disease with Special Reference to Treatment—Dr. F. W. Schnauss, Cecil.

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These papers were discussed by Drs. Fort, Lumpkin; Izlar, Waycross; Graham, Ellyjay; Lockhart, Mayesville; Hallum, Carrollton; Charlton, Savannah; Harvard, Arabi; Mobley, Milledgeville; Crook, Columbus; Barge, Newnan; Bassett, Savannah; and in closing, the essayists.

Thursday Afternoon Session—April 21, 1910

Acute Catarrhal Bronchitis—Dr. A. A. Barge, Newnan.

Hydrophobia, Its Prevalence and Prevention—Dr. Henry R. Slack, LaGrange.

Discussed by Dr. Smith, Atlanta.

Ethylic and Amylic Alcohol Differentiated—Dr. B. W. Hall, Bowman.

Discussed by Dr. Smith, Atlanta.

The Relation of the House Fly to Typhoid Fever and Other Infectious Diseases—Dr. J. W. Palmer, Ailey.

Discussed by Drs. Bassett, Savannah; Thrash, Atlanta; Hardman, Commerce; Smith, Atlanta; Izlar, Waycross; Graham, Ellijay; and closed, by the essayist.

A Further Report Concerning the Use of Vaccines in the Treatment of Chronic Infections—Dr. Edgar Paullin, Atlanta. (Read by title).

Flat Foot—Dr. H. M. Michel, Augusta. (Read by title).

The Use and Abuse of Tuberculin—Dr. Lewis C. Roughlin, Atlanta.

The Prevention of Tuberculosis with Special Reference to a Preventatorium for Children—Dr. George Brown, Atlanta.

Further Experience with Vaccines in Tuberculosis—Dr. E. C. Thrash, Atlanta. (Read by title).

Thursday Evening Session—April 21, 1910

Submucous Operation for Septal Spurs; with Special Reference to Buttonhole Incision and Modified Nichol's Spoke Shave—Dr. Hugh M. Lokey, Atlanta.

Discussed by Drs. Niles, Atlanta; Bassett, Savannah.

Appeal for Legislation Having for Its Object the Prevention of Ophthalmia Neonatorum—Dr. H. H. Martin, Savannah. (Read by title).

Report of a Case of Gonorrhoeal Arthritis Treated with Gonococcic Vaccine—Dr. W. L. Champion, Atlanta.

Some Remarks on Flatulence—Dr. George M. Niles, Atlanta.

Discussed by Drs. Taylor, Jones; Lockhart, Mayesville; and in closing, by the essayist.

Heredity as an Etiological Factor in Insanity—Dr. R. C. Swint, Milledgeville.

Discussed by Drs. Taylor; Smith, Atlanta; Block, Atlanta; Kime, Atlanta; and in closing, by the essayist.

Dr. Claude A. Smith, Atlanta, offered a resolution to the effect that the President appoint a Committee of three who should look to the establishment of a bill which should come before the next meeting of the legislature, which bill should comply with the provision contained in Dr. Swint's paper—which resolution was adopted.

Operation for Large Fibroid of the Uterus with Remarks—Dr. J. G. Earnest, Atlanta.

Discussed by Dr. Schnauss, Cecil; and in closing, by the essayist.

Friday Morning Session—April 22, 1910

The Results of an Operation for Suspending the Uterus by the Round Ligaments—Dr. J. R. B. Branch, Macon.

Discussed by Drs. Kime, Atlanta; Battey, Augusta; and in closing, by the essayist.

Were the Epidemics of Sickness at Boarding Schools All Over the Country Last Year Due to Typhoid Fever Infection or Ptomaine Poison?—Dr. C. M. Curtis, College Park. (Read by title).

The Importance of the General Practitioner Paying

More Attention to the Diseased Conditions of the Nose and Throat—Dr. M. F. Carson, Griffin.

Discussed by Drs. Crook, Columbus; Adair, Cartersville.

Subparietal Injuries of the Kidney with Report of a Case Requiring Immediate Nephrectomy—Dr. G. W. Roberts, Douglas.

Discussed by Dr. Battey, Augusta.

Report of Cases Treated with Radium Bromide—Dr. T. E. Oertel, Augusta.

Radium Therapy—Dr. F. G. Hodgson, Atlanta.

These two papers were discussed by Drs. Kime, Atlanta; and in closing, by the two essayists.

The President's Address was delivered by Dr. Thos. J. McArthur, Cordele.

Morbid Reflex Neuroses—Dr. F. W. Westmoreland, Atlanta.

Spending, or Nocturnal Orgasms, in Woman as a Cause of Hysteria—Dr. E. Bates Block, Atlanta.

Discussed by Drs. Earnest, Atlanta; Charlton, Savannah; Kime, Atlanta; McRae, Atlanta; and in closing, by the two essayists.

Dr. Woods Hutchinson addressed the Association asking their endorsement of the demands made by the Georgia Federation of Woman's Clubs.

Dr. R. R. Kime, Atlanta, offered a resolution endorsing the movement of the Georgia Federation of Woman's Clubs and that the Medical Association of Georgia should use its influence in furthering its interests—which resolution was adopted.

Tics in Children and Their Treatment—Dr. Henry C. Welchel, Douglas.

Report of Surgical Cases—Dr. R. R. Kime, Atlanta.

Discussed by Dr. Battey, Augusta.

Simultaneous Catheterization of the Ureters—Dr. A. L. Fowler, Atlanta.

Friday Afternoon Session—April 22, 1910

No papers read except by title.

Election of officers resulted as follows:

President—Dr. E. C. Davis, Atlanta. Term expires 1911.

First Vice-President—Dr. J. C. Bloomfield, Athens. Term expires 1911.

Second Vice-President—Dr. C. H. Richardson, Montezuma. Term expires 1911.

Secretary-Treasurer—Dr. W. C. Lyle, Augusta. Term expires 1915.

Councilor Fifth District—Dr. W. S. Goldsmith, Atlanta. Term expires 1913.

Councilor Sixth District—Dr. T. E. Drewry, Griffin, Term expires 1913.

Councilor Seventh District—Dr. A. T. Calhoun, Cartersville. Term expires 1913.

Councilor Eighth District—Dr. I. H. Goss, Athens. Term expires 1913.

Delegates to American Medical Association—

Dr. E. E. Murphey, Augusta; term expires 1911. Alternate—Dr. Thos. D. Coleman, Augusta.

Dr. H. F. Harris, Atlanta; term expires 1912. Alternate—Dr. Dunbar Roy, Atlanta.

The meeting adjourned to meet in Rome, Ga., the Third Wednesday in April, 1911.

PROLOGUE

"Since my younger days of passion, joy or pain, —
Perhaps my heart and harp have lost a string,
And both may jar. It may be that in vain
I would essay as I have sung, to sing

Yet, though a heavy strain. To this I cling,
So that it wean me from my every dream
Of selfish grief or gladness—so it fling
Forgetfulness around me—it shall seem
To me, though to none else, a not ungrateful theme."

Childe Harold's Pilgrimage, Canto III.

FORTY YEARS IN THE STUDY AND PRACTICE OF MEDICINE IN GEORGIA.

V. D. Lockhart, M. D., Maysville, Ga.

GENTLEMEN:

Forty years have brought changes which would challenge the descriptive power of tongue or pen or even the rosy hues sketched upon the artistic canvas. Like the moving picture show, which tells its dramatic story by action and not in words, the whole face of nature is magically transformed; "Old things have passed away and behold all things have become new."

Like the child in swaddling clothes, or boy in the Consequential Costume of Knee Pants, we have rapidly grown to proud man's estate. Looking all the world in the face, and with malice toward none and charity for all, we proclaim with glad and happy pride that our

father's lived, and wrought and died and left their works with us here in old Georgia, the Empire State of the South.

We have lived to se Surgery and Clinical Medicine established upon a firm basis. We have something left to us from the labors of great men who lived among us. Men like Crawford W. Long, Milton Antony, Louis A. Dugas, Henry F. Campbell, Robert Batty, Willis F. Westmoreland, the Fords, the Eves, Dr. Steiner, Dr. Griggs, and many who moved among us like kings among men, men whose smile was like unto the glory of the sunrise, laboring in battlefields and among graves and smoky ruins to re-establish for themselves and for us, a new civilization.

These men lived amid times of great trial and profound discouragement, and died, with sad hearts, perhaps. Later they were unjustly deprived of honors fairly won; but there will be a time, soon coming, when men, who are lovers of the human race, from every country and from the isles of the sea, will wend their way to this marvelous state of ours, and stand, with bowed heads to read their names carved in simple words, upon the enduring granite of their native country. We have lived to see the strenuous and galling shackles of ignorance fall away from the limbs of our people. We have seen them lift up their poor hearts from the widowhood and desolation of war and turn their faces once more to the rising sun of progress. Once more their hearts are made glad by the sound of children's feet, pattering upon the pavements, as they run on their way to school. May their little tender limbs never again turn sore from fatigue in factories, or be mangled by machinery; but may every seat in every school be occupied, and may every teacher feel the call of the Lord God mightily upon them to redeem our State forever from the damning effects of ignorance and vice.

We have seen the regime of dirt and filthy germs for-

ever banished from the home and hospital, and whole regions of the earth's surface, once considered too unhealthful for most of our race, made habitable and pleasant by simply screening off poisonous insects and by preventing soil and water pollution.

We have seen the soldier falling in battle rescued by kind hands and cured by simple and cleanly treatment, his life guarded by sterile equipment and placed back in the ranks or restored to home and loved ones.

We have seen women, that most lovely of God's creative power, rescured from the filthy couch and the infection of deadly organism, and freed too, from childbirth's deadly pang and danger. The transition from old to new in this department is truly marvellous. It is too great a theme to be protrayed here in a few lines.

The poor sufferer from fevers too may have great cause to rejoice on account of the simple treatment of modern times. 'Twas not so long ago that he lay, famishing with thirst, and dreaming, in his delirium, of the open air of boyhood, when he played along the cooling stream or lay down to drink from nature's healing fountain, but awaking with a start again, the poor sufferer could hardly speak for dryness of the fauces, deadly thirst or foul air. We are sometimes shocked when we see how far from nature we have lived, and how we have misjudged her simple teaching.

The scattered settlements of the early days have grown into beautiful towns and cities, with modern equipment. The licensed country doctor of the early times, mounted upon his pony and saddlebags has been succeeded by the physician of modern ideas and with college training whose noble ambition is now to prevent rather than treat diseases.

The small college at Augusta has grown from a mere academy of medicine, and expanded in power and influence until today, as the Medical Department of our splendid University system it commands the respect and pres-

tige of a great institution whose graduates have gone into foreign lands. At our Capital City too, we have seen several fine colleges develop into wonderful power and influence, commanding patronage from all the South and far West, and even students from foreign countries, who come there to enjoy the clinical advantages of that far-famed city, not dreamed of forty years ago.

Indeed it may be said with pardonable pride, that Georgia's part in the evolution of modern ideas of medicine and the development of our art upon a scientific basis, has been very prominent, and it should appeal to us as a duty we owe to our profession and especially to our predecessors, to insist upon the justice of our claims, and to demand that others may not claim for themselves honors which rightfully belong to us.

Men of great learning and distinguished ability are often very modest and unassuming. They are slow to make known their inner thoughts. To unlock nature's secrets they delve, like the prospective miner, into the hills "rock-ribbed and ancient as the sun."

Such a man was Crawford W. Long, the undoubted discovered and first user of ether anesthesia. At a casual glance we may be led to wonder why he lingered in the shades of his old hometown at Jefferson, and delayed for years, to publish his wonderful experiments. The magnificent qualities of his heart, the native modesty and courtly nature of his soul, caused the delay in a measure, perhaps. Of one thing we are assured, and that is, that Dr. Long must be sure of his ground. He would rather forego all earthly honors than to play the fakir for one day.

It is not my purpose today to read you a history of Dr. Long's discovery. That task has been done by others far more worthy and the record made up; but it does seem, that either intentionally or otherwise, writers and teachers of medicine, journalists of national character, continue to misrepresent, omit, or misplace the facts in history of this great man's life.

Dr. J. Marion Sims declared, after coming to Athens and going over all the ground, in the Virginia Medical Monthly, in May 1877, that Dr. Long's claims were never fairly treated. "I am ashamed," Dr. Sims wrote, "that I was wholly ignorant of them until a recent date, and I believe the great mass of the medical profession are in the same category with me."

Dr. Sims, after giving all the history of Dr. Long's operations, etc., declares that Morton's friends had been clamorous and persistent in proclaiming to the world that he (Morton) was the first man who ever produced complete anesthesia for surgical operations, but the facts prove incontestably that they were mistaken. * * * Dr. Long's anesthesia with ether was on March 30, 1842; Well's anesthesia with nitrous oxide gas, December 11, 1844, while Morton's ether anesthesia was on September 30, 1846. Thus we find Long was two years and eight months ahead of Wells, and four and one-half years ahead of Morton.

Dr. Long made no secret of his discovery, took out no patent or tried to convert it into a money speculation. All the neighbors knew it, the fame of his discovery spread to Athens, and God only knows how much further, and still, just in the nick of time when it must of its own greatness spread to all the world, another man steps in to claim the honor.

Some wiseacres have said that because congress placed the stamp of its approval on Morton's claim, because he published his labors to the world, which Long did not, that should end the contention. To my mind, it proves nothing, so far as evidence goes. When we think of the political scheming and wire-pulling, the sectional hatred, the thousands of insults heaped upon us by congress, we instantly discard the value of such logic, or rather bare assertion from any source. but let us:

"No farther seek his merits to disclose,
Or draw his frailties from their abode,
For they alike in trembling hope repose
The bosom of his Father and his God."

Very much in the same way Georgia furnished the leader in abdominal surgery, none other than Dr. Louis A. Dugas, of Augusta. In May 1876, at the International Medical Congress, in Philadelphia, where the most distinguished surgeons of the world had assembled, Dr. Dugas read a paper upon abdominal wounds in which he declared that the frightful mortality from such wounds was not peritonitis, as at that time believed, but due to septicemia. You know that in the early times the idea was to seal up the bullet hole or other penetrating wound and to give opium to saturation. Dr. Dugas condemned such measures and boldly declared that the patient should be anesthized, the abdomen opened in the median line, the whole length of the alimentary canal examined, the necessary surgical repairs made, the surfaces cleaned, and the abdomen closed again. In his concluding remarks he said: "Is it not time that we should regard as groundless, the fears heretofore entertained with regard to opening the abdominal cavity? The chances of recovery are much better to have the cavity cleansed and disinfected."

Dr. Eugene Foster, in his writing says that Dr. Dugas was the author of 127 medical papers, besides many valuable translations. He was the first physician to call attention to the infection of yellow fever in railway cars, and other public conveyances.

As professors, lecturers and teachers of medicine and surgery no part of our country furnished men more noted than those by our native State of Georgia.

Dr. Willis Westmoreland, of Atlanta, added much to the fame of our country as an operative surgeon. No man stood higher in the Southern Confederacy in the time of the civil war as a field surgeon or as director of

hospital service. His boldness and skill was known to the remotest bounds of the southern country. His advice and teachings as preceptor and teacher of operative surgery, freely given to many a poor boy in Georgia should cause our hearts to swell today with bounding pride for our native State.

> "Like some tall cliff that lifts its awful form,
> Swells from the vale and midway leaves the storms,
> Though 'round its breast the rolling clouds are spread
> Eternal sunshine settles upon his head."

Professor Henry Fraser Campbell, of Augusta, added as much to the progress of medical science during his lifetime as almost any of his contemporaries. He was one of America's greatest surgeons, second to none in the department of Gynecology, a profound scholar and one of the best friends a medical student could find in all the world.

Dr. Campbell first discovered and taught many useful things of a scientific and practical nature in our profession. Space, and the time limit of my paper forbids more than a passing reference to a few of them.

Dr. Eugene Foster says of him: "In the history of the profession few men have had so many honors conferred upon them. He was the only Georgian ever elected president of the American Medical Association. He was the discoverer of the Excito-secretory system of nerves. Among the great surgeons of America he was considered the peer of any of them. He was a profound medical philosopher. No citizen of this grand old State ever added greater lustre to the name and fame of Georgia than did Henry F. Campbell."

When David lay upon his dying couch he called to him his son and successor, Solomon, the beloved prince of Israel, and said: "I go the way of all the earth, be thou strong therefore and show thyself a man. Keep the charge of the Lord thy God, to walk in his ways, to

keep His statutes and commandments and His judgments and His testimonies." Thus did Dr. Campbell live, in the glory of heroic manhood and die in the love and fear of God.

> "His life was gentle and the elements
> So mixed in him, that Nature might stand up
> And say to all the world: 'this was a man'."

In closing I wish to say that Georgia's greatness as a State has been due, in a small degree, to her physicians. They have been interested in every movement looking to progress. They have extended a wondreful influence in the material prosperity and advancement of our people.

But I am sorry to say that we are getting but little credit for it. The political affairs of our State have given us scant recognition many times. In fact, it would seem that fakirs and charlatans have the ear of public men very often, to our disadvantage.

Looking around us today we see so many great things to be done, so much to be accomplished, that our future seems freighted with grave responsibilities. We must come out from our attitude of seclusion, so to speak, and become more aggressive, or at least more positive in our relations with public men and measures. Let not another forty years pass on the swift pinions of Time without claiming and asserting for ourselves that position which rightfully belongs to us in shaping the affairs of our State.

Education of the masses upon simple questions of public interest should engage our attention. This work, unselfishly done, will make of every doctor a real leader of public opinion in his home town or community.

As we go out to struggle with tuberculosis, hookworms, poisonous insects and other great problems confronting the destiny of our people, let us remember with gratitude that the Eye of the Infinite Father is still over

us." "Behold, He that keepeth Israel shall neither slumber nor sleep."

Let us arm ourselves for the conflict, like the volunteer, uniformed and equipped for duty, like the veteran, who offers himself as a sacrifice upon his country's altar.

"With a purpose once fixed and then victory or death."

THE DOCTOR, THE PUBLIC AND MEDICAL LEGISLATION.

Dr. J. G. Dean, Dawson, Ga.

MR. PRESIDENT AND GENTLEMEN:

Regarding much that is written and said on such occasions as this as bearing many of the ear-marks of plagiarism, or repetition of things said or written about many times before it has been usually my habit to observe silence, being content to listen to others. There are, however, many things which never grow old, and which should not bore though often repeated. I am sure that I shall say things here which are familiar to all doctors. For this I offer no apology. There are some things about which even doctors should be reminded. There are certain conditions abroad in Georgia which, it seems to me, appeal to every thinker on medical, and, especially, prophylactic lines. These conditions concern not only doctors but the laiety as well, and demand, as I see the matter, important legislation both general and local, hence the rather broad subject selected by me for this occasion. Since the days of Aesculapius, Hippocrates, Pythagoras, and Galen the doctor and his art have been important factors among the public and in matters of legislation. As the years have passed observation and experience have taught mankind much as to disease and its remedies. The world has now come more than ever to rely on the wisdom of the physician, hence the added reason why he, the physician, should measure up to constantly growing expectations. Advance in public education and culture brings to the physician increased responsibility. The day is approaching, and rapidly, when, by reason of the better education of the public the isms and

pathies in medicines which have played so great a part in the past will find deception more difficult.

The public can ever be duped for a time, some of it all the time, but education brings reason, begets selection, which selection falls upon the most meritorious. The physician who has not in entering upon what is one of the most erudite of the professions, and in which there are the greatest of all responsibilities, taken the pains and the time to properly fit himself in literary attainment, has failed utterly to properly estimate his supposed aim in life, and richly deserves the frequent failures that come the way of so many followers of the Aesculapian art. Every physician should be second in education and culture to no man in his community, he should strive to constitute himself the criterion educationally of his surroundings.

There are many things which indicate necessity for change in medical requirements and in medical legislation. No one recognizes this so soon as the thinking physician, but where should the change begin? Where should we go for the root of certain troubles? Thus far the public has proven rather indifferent to strictly medical legislation. Let there come disease which endangers the safety of the public pocketbook through the loss of horses, cows, sheep or swine, and every farmer, merchant or professional man is a unit on any measure looking to the eradication of such pestilence regardless of cost.

State legislation and the National Congress are bombarded with appeals, if there is need, for some new enactment to aid in saving the dumb brutes, thus preventing pecuniary loss to their owners. We hear much about efforts being made at a cost to the general government of many thousands of dollars to eradicate the boll-weevil, to banish black root from cotton. All such things, if allowed to spread, mean pecuniary loss. But how many of the general public have shown an interest in prevent-

ing the spread of certain diseases now known to be amenable to control when proper restrictions are brought to bear by proper legislation, general, as well as local?

How can the medical profession best succeed in eventually being able at all time to easily enlist the sympathy and co-opperation of the public in efforts at disease prevention or restriction? My answer is in two words, "By Education." Let the medical profession direct much of its energies toward furthering general education and consequent public culture. Let's look to the future and not be content with the ideals of the past or present. Let's aid in taking at all times such steps as mean not only advancement constantly in public knowledge, but professional attainment as well. **Let's go to the seats of medical learning and demand that more attention be given to educational requirements.** Why is there in America more than double the number of physicians needed? Why the great disparity in number of physicians in proportion to population in America, when compared to the same situation in leading countries abroad?

In foreign countries something like the following in that regard is the situation: "In Austria there is one physician to 2,500 people; in Germany, one for every 3,444; Great Britian, one for every 1,652; France, one for every 1,814; Italy, one for every 3,500, and in Canada, just across our border, one for every 1,193 in habitants."

What about the situation in our own Great America with its boasted civilization and wealth. There is one physician to every 600 of our population, and druggists in proportion! Think of the disparity! Why this state of affairs. There is a pertinent reason. That reason is vital, and reflects first on medical institutions of learning. These institutions should be made to mend their ways as to the literary requirements which they claim to impose on the proposed student who knocks at their doors.

As far back as 1766 the Medical Society of New Jersey demanded that no student of medicine should be lacking

in a good knowledge of Latin, and, at least an initiatory knowledge of Greek. This was in the right line, but do the facts of the present day indicate that our medical institutions are, when we are advancing along all other lines, adhering strictly to such educational requirements? A Diploma in Medicine is now supposed to be obtained after four terms in a medical college. That **should** mean much. Not long since I was called by telephone by a brother practitioner and the following question was asked, "Have you got **airy** instrument you use in * * *" giving the name of a certain operation requiring considerable care and technical skill in its performance, and stating that he had a patient needing this operation and he would send for the instrument. He had but recently completed four courses in two medical colleges and obtained his diploma. Another physician in attempting to tell of a patient he had which had been in a comatose condition for some hours referred to the condition as a "**catamose**" one. Still another had made an insurance examination which certain circumstances caused me to have to scan and an absence of a knowledge of orthography or the rules which govern the use of capital letters was at once manifest.

All these are graduates of **reputable** medical colleges! Then why wonder that there is great crowding of the medical profession in this country and frequent lack of proper regard for ethics among members of the profession? Get after the colleges, force them to improve their product, decrease the output by more stringent educationl requirements and we will not only compare favorably in every respect, medical and surgical, with the older countries, but the public will entertain greater respect for the medical man, our influence for good will be greater, and we can more easily produce results when medical legislative enactments are wanted.

The medical profession of Georgia is at this time earnestly engaged in a warfare on the fly, the hookworm.

the mosquito, and other enemies to the health of mankind. To win signal victory in this very laudable medical effort we must have the co-operation of the public that we may be able to secure medical legislation either local or general, or both. Much tendency is shown by many of the public to look lightly upon the recent propagandas against the fly and the hook worm, both of which great dangers to man being often referred to in a spirit of derission and jocularity. We must be "**Men from Missouri**" and **show** the dear people that we are seeking to compass their safety, save them from ills and death.

All this will require patience but will come as the public is by education made to recognize the sincerity of the medical profession in its efforts at disease prevention. Then will we be able to secure local city ordinances looking to the destruction of the typhoid fly and the hookworm by proper hygiene in and around the home.

But a few years ago it was an unusual sight to meet an individual with the unsightly scars left by small pox. The public generally looked with dread on this loathsome disease. There are now many evidences that an inexplicable indifference has supplanted this dread. It has become in many sections, certainly in my part of the State, a very difficult matter to induce the county or municipal authorities to either isolate or vaccinate, and not only negroes, but even some whites go and come as they please with the pustules of Variola full grown and evident to every one, and a pitted countenance is no uncommon sight. This is a deplorable situation and should be speedily remedied.

I would suggest that every doctor in the State should urge the Representatives from his county and the Senator from his district to secure at the approaching State Legislative session the passage of a State law requiring every child of school age in the State to be properly vaccinated before it can again enter the public schools of the State, either white or colored.

In this way small pox would soon be banished from the State for lack of material to feed upon. If local, county and municipal authorities have come to think more of the relatively small cost of isolation and vaccination to control this disease than of the suffering, loss of time, and deformities produced by it, let the State Legislature bring the desired end by the means suggested.

In concluding this paper, permit me to briefly recapitulate by saying "Educate the public in matters of hygiene and disease prevention, secure a more real literary educational restriction in our medical college requirments, and thus raise to a still higher standard the Medical Man of Georgia.

THE GEORGIA STATE SANITARIUM.

Thos. R. Wright, M.D., Augusta, Ga.

Seventy-three years ago, in what was then the Capital of the State of Georgia, (Milledgeville), there comes one, whose name we do not find but with the love of humanity and the milk of human kindness overflowing his noble heart, suggests that some provision be made for those whose reason was dethroned or otherwise mentally affected. Promptly was his suggestion met by the physicians then living in the little town. Associated with these gentlemen in their proposed good work were several members of the Legislature, who seeing the necessity for such an institution presented its claim and appeal for an appropriation and which history states, was reluctantly given, and by which forty acres of land were bought, two miles from town on a high hill and overlooking it. Here the work was begun but none of the buildings were ready for the patients until December, 1842. At this time, the Asylum was placed on a self supporting plan, the Counties being expected to pay for their pauper insane and the friends and relatives for patients, who were able to pay, were expected to defray their expenses. This plan did not last long and in 1846 the State assumed the care of those of its citizens who had become insane. In its career of seventy-three years, there have been but four Superintendents, Drs. Cooper, Greene, Powell and its present Supt., Dr. Jones, a record which few institutions have.

When Dr. Greene took charge, only those sent to the Asylum, were those who were dangerous, hopeless or otherwise a burden to their families. Dr. Greene must have been a man of wonderful tact as well as ability and kindness of heart, for he soon had the confidence of his patients and the respect of the citizens of the State at large, so that it was easy for him to get such

legislative appropriations as the growing demands of the Institution called for. In 1852, the Asylum was greatly blessed by a visit from that noble philanthropist and worker in the interest of the insane, Miss Dorothy Dix, whose helpful assistance and advice was of great value.

From time to time as the demands called for, additional buildings were erected until now there are eleven upon the Asylum property and which have cost the state to date something in the neighborhood of a million and a quarter dollars. The older buildings are built according to the Kirke Bride plan and of course are not up to date. The more modern ones have been erected according to approved plans and are much better adapted for their intended purposes than those built fifty and sixty years ago. Were you to go through the older buildings today, you would be surprised to see how, with good care and management they are answering a good purpose.

The end of the war in sixty-five threw upon the State an additional burden in the care of its negro insane, which meant separate and distinct buildings and you will find that they are as well cared for as in any institution in this country.

THE WORK OF THE INSTITUTION.

The care of its inmates comes first in the work of every Institution of this kind. In this State's Institution, it would be almost impossible to have its inmates receive better care. Comparison with institutions elsewhere give ample proof of the truth of this statement. It must be borne in mind that the care of the Insane is vastly different from those blessed with sound minds and memories. They are irresponsible and can neither be held or taught what is best for them to do. In institutions of this kind, no one will deny, indeed it is impossible to have every thing work perfectly and smoothly, for it is no easy task to overlook thirty-two

hundred people, with their necessary attendants and employees, without having faults creep in some where. At least one thing can be said of the Geirgia State Sanitarium, that it was among the first, if not the first to advocate the humane treatment of its patients and to banish from its treatment the harsh and inhuman methods of the old mad house, this having largely been due to the efforts of its late and acomplished Supt. Dr. T. O. Powell.

In the work of this institution, that of its medical staff must of necessity be considered and let me say just here, that those gentlemen who have the care of Georgia's insane are faithful and untiring in their work. Aside from this, you find them at work in the field of investigation and from this staff has eminated some of the pioneer work along the line of tuberculosis, pelagra and the hook worm to say nothing of papers directly applicable to nervous diseases.

THE NEEDS OF THE INSTITUTION.

It would be impossible to find any institution so absolutely perfect as to preclude its improvement. The demands of the present day and the scientific investigation and the study of insanity call for something more. Among the urgent needs now supplied I am glad to say is the isolation of the tuberculous insane and you will find that four buildings for this purpose are at present being erected on the Asylum grounds.

Another pressing need is the care of the feeble minded. It is unfortunate that this class of cases has to be left among the imbeciles for there is a chance of making out of the feeble minded a citizen who may be self supporting and he should not be condemned to a life devoid of hope in a general Asylum. The same is true of the sane epileptic for the State makes no provision for their care outside of its main institution. While admitting that up to this time but little has been done

for the relief or permanent cure for this dreadful trouble, it does seem that an infirmity should not leave one in and among them apt to do them a harm. The criminal insane too should be separated for it would seem apparent that some other place should be provided for these unfortunates. These suggestions are not original with me for if you have kept up with the reports, which have gone out from this institution, you will note that these changes have been urged for more than thirteen years.

ITS CLAIMS UPON THE PROFESSION.

When it is realized that one in six hundred of the population of Georgia are within its Asylum, you can readily realize that you as the guardians of the public health must have some obligations and some claim on you for to whom must the average citizen look for advice in all matters pertaining to his health or environments than to his Doctor. The Georgia Sanitarium should interest every physician within the state. Come with me and see how this Insitution has become the home of so many of our fellow sisters and brothers. It is no longer the mad house, but the place where some little hope is offered for mental restoration.

DISCUSSION

Dr. Clark, Macon, Ga.

We as physicians of Georgia have not been doing our duty in reference to the State Sanitarium. It was my pleasure to visit the State Sanitarium on one occasion. The people need to be educated that insanity is a disease and not a crime. We should by all means change the plan of commitment. We can accomplish a great deal by changing that, and we as physicians are better prepared to educate the people. Let them be taught that insanity is a disease, and that our State

Sanitarium is a place for treatment of disease. And furthermore like any other place for treatment of disease, it is necessary to have a medical and a business side, and the business side should be looked after by business men, just as the medical side should be conducted by medical men, and no Governor is capable of appointing a set of business men who are capable of regulating the medical affairs of any institution. We can accomplish a great deal with our legislature, and must begin the education of the people at home, and while working with them we might have some of our other medical laws in Georgia amended.

Dr. Swin.

Ever since I can remember we have had a representative at the association, and we have wanted to have more representatives, but an explanation of that fact is, it always conflicted with the meeting of the Board of Trustees. The regular meeting of the Board of Trustees has been postponed this month in order to give the members an opportunity to come to this association. I feel that the members of the staff need the cooperation of the Medical Association to use their influence to bring about changes in the way of appropriations by the Legislature.

Dr. Hardman.

I have had opportunity of visiting this institution as a committeeman of the Georgia Legislature. I have had an opportunity of voting a number of times for the appropriation for this institution. I have noticed in almost every year that I have been a member of the Legislature when an appropriation has been asked for this institution that political fights are at once started to work against the appropriation. This institution takes one of the largest amounts of appropriations made by the State. Necessarily it meets with opposition, because there is other needs of the State, but any one that in-

vestigated the needs of this institution and have compared the per diem support of this institution with other institutions of this country would see that it is kept up with less per diem than almost any institution in this country. There is great need for more appropriation to this institution, but it occurs to me that we would want to get rid of the political factions if we want to add money to this institution, the doctors in Georgia must take more interest in this institution. It is but very seldom that there is any of the doctors of the State who appear before the appropriation committee, except the efficials of this institution, for increased appropriation, to give any reason why it should be done, and of course these officials are regarded with suspicion.

I believe if the doctors of Georgia would go to work in their homes and go to work with their people and take a stand or these things you would find you would get good results and get more money. You know it is said the State of Georgia is almost bankrupt, but I do not believe it.

I agree heartily with the gentlemen who have taken such a stand that the political connection should be severed. No executive of the State is hardly in position, hardly capable to judge of proper men, either as trustees or otherwise, to know the need of this institution and know what can be done.

Dr. Wesley Taylor.

There is one thing that Dr. Hardman called to my mind in reference to the Epileptic that is this: That while we care for the epileptic at the Sanitarium we have no special place for them, another class of patients we havn't room for is the feeble minded. A branch of our State Sanitarium should be devoted to feeble minded children. The epileptics will run up into thousands if we consider we have as many in this State as other States, and when it comes to feeble minded children

we have a large number of these, and I think most of us will agree that feeble minded children demand special attention, or special institutional work, simply because they cannot be cared for at home. I think we might look forward to some place to care for the feeble minded as well as the epileptic.

Dr. J. W. Mobley.

As an official doctor of the State Sanitarium, I would like to say that one trouble of that institution is that the physicians in the State do not take any special interest in it as a body. The management of an institution of that kind must be medical in its character, the material and professional are so combined until it is almost impossible to run it successfully any other way. I do think that this body, as a body, representing the principal medical association of this State, should take more interest in that institution. No one scarcely knows the work that goes on there. They take no interest in it specially, and yet at the same time there is a great deal of scientific as well as practical work done there.

The trouble of course arises from many points.

First is, physicians who go there are generally internes, they get them on small salaries. I went there myself with the view of perefecting myself in certain branches. I do not know what there is so fascinating about the place. A great many applicants apply for trusteeship, and at one time the Governor asked one of the applicants the question what is there so fasciating about the Geoorgia State Sanitarium as to make anywhere from 250 to 300 applicants. The man replied, "You would not resign trusteeship to be Governor of Georgia." That simply points the fact that the control is to a degree political, and for that reason people have looked on that place in rather a suspicious way. I think the question ought to be presented fairly and squarely before the Association so as to eradicate any doubt as to the work that goes on there.

Dr. Jones, Milledgeville, Ga.

We never have been able to get the appropriations we asked or to support the institution as it should be. We need some buildings there today, but there are two points I would like to call to the attention of this body.

That is, the law ought to be changed so as to not appoint a new Board of Trustees whenever a new Governor is elected. As the law stands now the new Governor can put out every trustee but one. We have a Board of ten trustees, and the law is now that the Governor could put out every man except one. That has been done several times, bringing in a new Board entirely ignorant of the needs of the institution. It takes a man some time to learn what we need in an institution like that, and the law ought to be changed so as to make the Board of Trustees a period of say six years.

The most important thing is a law requiring ten days waiver of the notice by the relatives of the person who is to be tried for insanity. I do not care how great the necessity for the care and treatment of a case is they cannot be tried under ten days. There is scarcely a week that I do not have applicants for immediate care, but I cannot receive them until they are kept away ten days. That law ought to be amended so as to allow them to waive that ten days notice. Three relatives have got to have ten days notice. I have known patients to die for want of proper care and treatment while staying in jail waiting for the ten days notice. I hope this body will take some interest in having that law so amended, that patients can be tried and sent to the institution at once.

PELLAGRA—ITS RELATION TO INSANITY AND CERTAIN NERVOUS DISEASES.

J. W. Mobley, M.D., Milledgeville, Ga.

Much has been written in the last two years on Pellagra, and especially Pellagra in the South.

The daily newspapers have given considerable attention to the subject, and agitation of this malady has arisen from many other sources since its general recognition by the medical profession in the South.

The purport of this paper is not so much to deal with the history of pellegra, but to present the disease, as the writer sees it, in its many-sided clinical aspects. At the very outset, we are drawn into contention with a serious problem. There is no further question as to the existence of pellagra throughout the South; it is here in its true and allied form, confronting us with such an awful clinical picture as to carry death and dispair in its very name. The alienist looks back with regrets upon the mortality of this scourge in hospitals for the insane. He is made to reflect with deep concern for the future of his race, when he observes the powerful impress of this disease upon the mind and nervous system. The general practitioner is not so much called upon to consider pellagra in its relation to insantity. On the alienist rests the moral duty of warning his people against an infection which, once firmly rooted, will manifest its baneful influence forever upon the human family.

Discouraging enough would it be if each individual case represented a morbid entity unto itself. The picture becomes more serious, however, when we contemplate the role which pellagra plays in the chain of heredity. Its poisoning effects are not spent alone upon the individual subject, but like tuberculosis, it transmits a mor-

bid inheritance to the recipients. I desire here, gentlemen, to deeply impress upon you the evil which this disease must represent as a vicious factor in our social system;—what would the world give today if it could recall the propagation of idiots?—What a strain could be removed from medical science if the life-history and management of tuberculosis might be reviewed. Many already are the deteriorating forces which prevail against our race. Shall we sit idly by and allow the ravages of this insidious monster to sap, unbridled, the vitality of our future generations?

Upon this distinguished conference rests the responsibility of inaugurating measures looking to the suppression and control of this rapidly increasing malady.

PREVALENCE

The report of the Public Health and Marine Hospital Service for 1909 will show that Dr. Gray, of New York, and Dr. Tyler, of Massachusetts, reported two probable cases of pellagra forty-five (45) years ago. I am informed that both of these gentlemen were alienists; and you are here reminded again of the splendid opportunity offered physicians to hospitals for the insane to observe these cases. It is, indeed, hard to account for the stuporous lapse of time in which forty years or more passed away without the record of a single other case in the United States. Harris, of Georgia, and Shewell, of Chicago, finally reported a case each in 1902. Following the last two mentioned cases, there was another lapse of comment upon the disease until 1906-1909, when there seems to have been an epidemic of observations as well as cases reported.

Probably to Babcock, of South Carolina, is due the greatest credit for the most thorough report of cases in the South, and a complete bibdiography of the disease in this country.

No doubt, pellagra has been steadily on the increase

in the United States since 1860. The impression prevailing that it was a disease indigenous to foreign countries, not much vigilance was given to its detection.

It is true that many clinical conditions may have been confused with pellagra, more especially certain nervous diseases attended by secondary trophic symptoms, dependent upon faulty innervation, but such are not sufficient excuses to warrant so great an oversight on the part of the medical profession.

ETIOLOGY

The cause of pellagra will probaly be found in both general and specific factors. Just to what extent, if at all, they operate together, we are unable to say. The various clinical aspects of the disease, however, would justify us in considering its etiology under several headings

First—Is pellagra produced only by a specific organism, and its toxines?

In considering a specific factor as to sole cause of pellagra, we are brought to face with many conditions which speak both for and against this etiology. The labors of the very best men in this country and abroad have been surrounded with doubts and practical inconsistencies, but have ultimately, and, with some degree of reluctance, converged into the opinion expressed by the famous Italian professor, Dr. Lombroso—that a fungus growing upon maize produces a toxine which causes the disease.

Other specific factors are shown in the protozoan theory, which so closely allies syphilis with pellagra as to make their clinical picture at times quite similar. The peculiar cell observed by Dr. Cross, of Georgia, with a chlorophyle-like content is on the side of a specific infection. He describes these cells as about the size of hookworm eggs, either round or oval in shape, and sug-

gests that they may have been altered epithelial cells, but their morphology seemed to be unchanged.

The specific fungus (aspergelli) which grows upon corn will also grow on cheese, and may account for the disease in many instances, where the history of a corn free menu is obtained. The confusion and tonic muscular state, known as "blind staggers," incident to horses that are supposed to have eaten molded corn, indicates a clinical phenomenon of vicious infection and specific origin. Brown and Low report a case as having occurred in a shopwoman from the frequent taking of raw oatmeal and rice. Maize seems to have played no part in the production of this case.

Much more evidence might be cited in favor of a specifiic etiology, but as this theory does not prevail unanimously in this country, and more particularly in the South, we will proceed to other factors yet to be considered.

Second—Is the disease caused by the toxine of a specific organism, operating only in the presence of a peculiar morbid predisposition, racial peculiarity?—Or does any latent or active pathological state favor its development?

In studying the causative factors of pellagra from this view point, we are brought to face with inherited pathological tendencies which cover a broad field in general medicine. Are certain individuals immune, or are all classes susceptible to the infection? The clinical behavior of the disease opens this query, but I shall not attempt to discuss it here Certainly an immunity does not appear to develop by virtue of previous attacks; as competent observation will point to the conclusion of an incurable malady. The negro famale in Georgia seems to be the selective host. The explanation of the apparent proclivity for this race is untenable unless explained in the deteriorating phenomena which marks so great a decline in the generic purity of this class since

their so-called freedom. Apropos of this idea—impressive are the facts that disclose the alarming increase of syphilis, tuberculosis and insanity in the negro race of Georgia since their emancipation. Dr. T. O. Powell, former Superintendent of the State Hospital, in an able paper, shows that there were only forty-four (44) insane negroes in the State of Georgia up to 1860. Previous to this time they enjoyed splendid health, and tuberculosis and insanity were exceedingly rare among their race. These forty-four insane negroes occurred in a population of 465,698, representing approximately one insane to every 10,584 of negro inhabitants. The succeeding ten years show an increase of insanity in the negro to one in every 4,225, with a colored population of 545,142. The census of 1890 gives the total negro population in Georgia at 858,815—the number of colored insane at 910; advancing the ratio in thirty years from one in every 10,584 to one in every 943 of negro inhabitants.

Georgia may be accepted as a fair index to the social, physical and mental condition of the negro in the South. Syphilis and tuberculosis, fraught with their chain of moral and physical deterioration, have progressed parri-passu with insanity in the Southern States since 1864, and should be considered here, especially, in relation to pellagra. These diseases, so infrequent in the days of slavery, are now so common as to represent the principal chronic maladies from which the negro suffers. Interesting will it be to note here that the post-mortem records of the pathological laboratory of the State Hospital for Insane of Georgia will show that out of one hundred unselected necropsys about ten (10) per cent. of patients dying probably of pellagra, manifested lesions also of localized or general tuberculosis. If, on the contrary, we presume that death in these cases was caused from tuberculosis, then a like per cent. exhibited symptoms and morbid changes suggestive of

pellagra. The association of the two diseases are, to the author, too frequent to pass unnoticed. The microscopic findings further show areas of syphilitic necrosis, together with the gross tuberculosis changes in some of these cases.

The anatomical diagnosis of the majority of these cases appearing on the records as tubercular enteritis.

Considering the fact that pellagra is a chronic, progressive disease; considering the fact of its frequent association with syphilis and tuberculosis; and considering the relationship of syphilis to certain chronic nervous disease, as paresis and tabes—are we not justified in suspecting the existence of a morbid and etiological equivalent in the three conditions?

The basic principal of perfect health is pure blood and an untainted physical make-up, and while each individual may possess an independent reaction index both in health and disease, yet, the impress of chronic morbid factors, operating through generations, must finally be expressed in the reduction of the health standard, in the scale of human life.

The influence of crossing in the negro has brought as its product an hybrid type, with a weakened vital resistance. The most potent etiological factor in the production of insanity is insanity itself; the same may be be said of tuberculosis. The scientists tell us that neither of these diseases are transmitted as such; but no student of anthropology would atempt to deny their destructive effect upon the moral and organic continuity of the human race.

As an hereditary factor, pellagra possibly possesses, along with insanity and certain other chronic organic diseases, an etiological equivalent in its own production.

Among other contributing causes in the production of pellagra, I feel compelled to mention certain intestinal parasites. Dr. Willets, Pathologist to the Georgia State Sanitarium, has shown that out of five hundred unse-

lected insane negro females, thrity-five had pellagra. The fecal examination of the entire number (500) disclosed the fact that 50 per cent. were infected with some form of intestinal parasite, the percentage and name of each respective parasite being given in the table below:

Number Negroes Examined	Infections	Ascaris	Trichuris	Strongy-loides	Uncinaria	Hymeno-lepis
500	50%	28.2	40.2	18.2	11.8	0.2
Pellagra 35	40%	6.57	17.14	25.71	20.0	2.86

The thirty-five pellagra cases, of course, are included in the total number examined—that is, five hundred.

You will observe from the table that the highest per cent. of infection in the pellagra cases is from strongyloides and uncinaria. These parasites are both blood suckers, and are quite hard to dislodge from the intestinal mucosa. Whether their clinical signficance extends beyond this scope, I am unable to say.

I do not regard pauperism, per se, of any value in the production of pellagra, aside from the unfavorable conditions of habitation; neither has the effect of the sun rays been satisfactorily analyzed. The question of contagion receives some support through the peculiar development of the disease among recent admits to hospitals for the insane.

Dr. N. P. Walker, of the Georgia State Sanitarium, reports that out of eighty-nine (89) cases of pellagra, among the insane colored females, only nineteen or twenty-one per cent., were infected with the disease at the time of admission. The remaining seventy (70) cases exhibited the first known symptoms of pellagra after admission.

The table below shows approximately the time of first known symptoms after admission, in the colored female cases referred to:

	Number
One to four months	27
Five to eight months	11
Nine to twelve months	7
Unknown	4
One to two years	20
Cases ten years after admission	1

This table may be accepted as representing fairly correctly the status of the (80) cases, more or less, of pellagra occurring among the white patients of the Georgia State Sanitarium in the last two years.

In my opinion, the records of all hospitals for the insane in the United States will show that 50 to 75 per cent. of pellagrous cases exhibit the first known definite symptoms of the disease after admission. Of course, allowance will have to be made for those cases of the manic-depressive group, with a marked inherited instability—and where the psychic disturbance is one of the very early symptoms of pellagra. It is of interest to note, in contrast to the frequency of pellagra in the colored female in Georgia, the negro male appears seldom to suffer from the disease.

However, so far as can be ascertained, there has never been a case of pellagra to develop among the nurses, white or colored, while employed as such in the Georgia State Sanitarium.

Third—Certain pseudo-pellagrous states from a general toxaemia, resulting from mixed infection of pathogenic bacteria, is only mentioned because of the many clinical conditions which seem to portray a picture of this character. More notable is this condition among the insane, and especially, such psychoses as come under the dementia praecox type. These patients will sit in katatonic stupor with the buccal cavity full of offensive saliva. They will gradually develop a stomatitis with a chain of nervous symptoms and morbid anatomy almost identical with classic pellagra. From my observation,

the digestive disturbance with diarrhoea usually precedes the local epidermal changes, in these cases, and the picture, as a clinical unity, points primarily to a toxic infection arising either from a neglect of oral hygiene or a poisned saliva.

Dr. John A. Fordyce, of New York, in a very excellent paper, has shown the very close relationship of mucous membrane affections to certain diseases of the skin. Many pseudo-pellagrous states are quite significant in this connection, as good observers have shown that catarrhal inflammations of the skin may interchange with those of the mucous membranes,—the one being active, while the other may be in abeyance. Pertinent is the theory in this connection that certain nervous diseases may have their morbid expression in cutaneous manifestations.

The physiologists tell us that the nervous system, the epidermis and the epidermic tissues, with the mucous membrane of the mouth and rectum, all have their histogenesis in the same embryonic membrane, that is, the epiblast.

Now, admitting the fact that the pathognomonic symptoms of pellagra are shown in a triad of morbid conditions visible through either one or all of these systems—are we in a position to deny that a general toxaemia, beginning in the oral cavity, might not be confounded with many of the pseudo-pellagrous states now existing throughout the country. Certainly with the physicians in Georgia, there is a disposition to assign to the pseudo-pellagrous group such morbid pictures as sustain a clinical relationship to chronic syphilis and tuberculosis. Especially is this true where syphilis and tuberculosis are associated with insanity, and the clincal picture is one of a wasting disease with such nervous symptoms as might be present in pellagra.

Take the novice and carry him through the colored female department of the Georgia State Sanitarium, and

you will hear the spontaneous expression from him—Syphilis! Tuberculosis! in reference to many of the so-called pellagra cases.

DIAGNOSIS—PSYCHIC PHENOMENA

I trust, for lack of time, I may be pardoned for embracing under this general heading the remaining phases of pellagra which I desire to consider, though some do not properly belong here.

The disease, as a clinical problem, has attracted attention for many years in the Georgia State Sanitarium. It was construed as a morbid attribute to insanity, with certain nervous and physical complications, in which syphilis and tuberculosis played an important role as etiological factors.

As far back as 1898, the records of the pathological department of the Georgia State Hospital, will show that such colloquial and incorrect nomenclature as foot and mouth disease, marasmus, malignant stomatitis, cochin china diarrhoea, tubercular enteritis, and solar dermatitis were given to the disease, and these phrases are suggestive of such symptoms as may have predominated in the clinical picture from time to time. Finally, all of this doubt and confusion as regards the malady was concluded, to a degree, in the happy relief afforded by tropical Aphtha or Sprue, which became prominently recognized in Georgia through the splendid reports of this disease by Dr. H. F. Harris, of Atlanta. With the advent of sprue, however, there arose a narrow but perplexing chasm in the differential diagnosis of the two diseases; the differential points are still treacherous, and I fear their significance lie more in the hypothesis of theory than the practical arts of medical diagnosis.

I shall only record my personal observations as to the pathogenesis, as the conclusions of writers on pellagra in this country and abroad, are practically in accord as to the morbid changes. As to whether the disease pos-

sesses an incubation period, the author is unable to say—in all probability it does, yet, the writer has never seen such statement from reliable authority. The peculiar stomatitis, with or without aphthous deposits; pain in the back; a red-brownish pigmentation, sometimes of a fungoid character,—about the face, neck, chest, inner surfaces of thighs, vulva and upper folds of buttocks, are no doubt, familiar to you all. The characteristic epidermal changes about the elbows and the dorsal surfaces of the hands and feet, varying from a mere discoloration of the skin to fissures and superficial necroses are too common to dwell on here. I wish to say, however, that oftentimes the epidermal changes involve the palms of the hands, soles of feet and, indeed, quite a number of instances have come under my observation in which the flexor regions of the wrists have also shared in the necrosis. This is a rather infrequent condition and has not been observed by some writers on the subject. The enlargement of the glands; the low haemoglobin percentage; in some cases nucleated red cells and an occasional leukocytosis. Ulcers in the caecum, often tubercular in character, are frequently associated with pellagra. So far as I have been able to learn, there has been nothing of clinical significance in the spinal fluid. Brown and Low observed no increase of cells in the case examined by them. The re-action of the moist epidermal changes are as a general thing slightly alkaline. When there is diarrhoea, the stools may be from three to fifteen a day, either slimy pea-soup or light brown in color; sometimes frothy, and of alkaline or acid re-action. Dysentery may preced any difinite pellagrous symptoms for weeks or months. Coarse tremor, with disturbances of co-ordination, is often present, depending apparently upon the degree of infection.

The cycle of the skin lesions holds no definite place, as to development and recession, in the morbid picture. The rash, while present more often in spring and summer, does appear in winter, and I have seen bullae

develop on the hands, fingers, and thighs, of white females, from twenty-four hours to two days before death. Their occurrence is indicative of profound infection, and is usually associated with moribund states. The temperature curve is void of typical features, more often it is normal or may be sub-normal or go as high as 105 degrees. The pulse appears to bear some relation to the degree of intoxication and extent of mental involvement. In my experience, there has been a striking absence of vaso-motor influence in relation to the skin and its eliminative function; the surface, even in the delirious forms, being dry and scaly. I have observed multiple abscess in two cases. The appetite is usually poor, in some cases ravenous. Vomiting is infrequent. The urine has shown nothing of clinical value. The musculature in mild cases presents the picture of fatigue toxaemia. The reflexes may be exxagerated, diminished or absent. Sensation among the insane is quite variable —it is hard to determine whether there is any true alteration or not. In cases where the spinal-cord seemed to be involved, I have seen marked intention tremor simulating pseudo-convulsive attacks.

In considering the neuro-psychic phase of pellagra, it will be expedient to study, first, the two conditions together, without attention to their strict division into separate clinical entities. Indeed, I might say, seldom do we have in Georgia an organic disease of the nervous system, of pellagrous origin, without invasion of the psychic realm. On the contrary, so intimately associated are the two maladies in many of their clinical aspects, that we are often perplexed to know which, if either, merits the place of priority in occurrence. An illustration will more adequately explain the confusion which has arisen in the author's mind as to whether a primary neurosis, of a non-pellagrous etiology, might exhibit a secondary symptom complex, simulating the pellagrous syndrome. Take, for example, amyotrophic lateral sclerosis complicated with insanity—the two diseases

may progress with the preponderance of symptoms favoring a spinal cord lesion as the primary site of invasion. The mental state may vary from mild confusion to complete delirium; the reflexes may be exagerated with a variable Babinski and Gordon paradox; the patient gradually develops a sore mouth, with alternating diarrhoea and constipation; later the skin lesions appear with variable intensity. Have we pellagra with amyothrophic lateral sclerosis and insanity as complications, or have we insanity and organic cord disease with a pellagrous complex? The cord lesions are usually confined to the lateral columns; the posterior of sensory may also be invaded, especially in the tabetic forms. The cortical cell changes, in the insane, are probably dependent to some degree upon the type of psychosis and its duration.

In our American nomenclature, we have no distinctive classifications for pellagrous insanity; the different psychic alterations falling under such category as the symptom complex may indicate;—scientifically speaking, all psychoses of pellagrous etiology—excluding organic diseases of the brain and nervous system, should fall principally under the intoxication of infective exhaustive group. However, for the sake of clearness, I have divided the classifications, generally speaking, into four headings. The conclusions, as regard the separate mental reaction states, having been obtained by carefully isolating such symptom groups as are more of less peculiar and constant in the different insanity phases.

First—The case showing a profund intoxication, with early delirium, high temperature range, with symptoms pointing to acute organic changes in the cord or brain.

Controlling phase: Complete or incomplete psychomotor suspension.

Classification: Acute intoxication psychosis.

Second—Those cases of an apparent mild infection with some mental anxiety, apprehensive hallucinosis, gradually increasing mental confusion.—finally delirium —temperature subnormal or slightly elevated,—this type

usually covering six weeks to two months or more, ending in a slow but progressive exhaustion.

Controlling phase: Psycho-motor Retardation-Excitation (active passive).

Classification: Infective Exhaustive Psychosis.

Third—Those cases showing symptoms of mild melancholia, chronic in character, with remissions and exacerbations, impending fear, suicidal tendency, due more to apprehension than self-reproach; temporary recovery.

Controlling phase: Psycho-motor Retardation (inconstant, passive).

Classification: Symptomatic Melancholia.

Fourth—Those cases of mixed type showing at times symptoms of depression, exaltation, confusion, impulsive acts, apprehensive hallucinosis, exhaustion, slow mental reduction,—including the Dementia Praecox Class.

Controlling phase: Psycho-motor Retardation-Excitation. (Active, passive, negative).

Classification: Manic-depressive-allied states.

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DISCUSSION

Dr. L. G. Hardman.

I would like to call attention to one statement especially in Dr. Mobley's paper, and that is when he

says we have good corn in this section of the country. The great bulk of corn is shipped in. It is rather the exception than the rule to find any farmer that doesn't ship in corn almost every year, and that corn is oftentimes damaged corn. You may take the city of Athens, or any small town and you will possibly find corn being dried there, if we feed it to the stock, the stock dies, the people eat the meal that is made from it. If we take the corn that is ground and cured in Georgia it is safe to eat it. A great bulk of the corn, or I might say the larger portion is damaged. I have in mind one warehouse that I was in yesterday that had the whole floor covered with corn sold as good corn. The U. S. government has investigated and they find that 6 per cent of corn meal could be put in flour hardly without detection. Another thing which occured in an adjoining county in which I live. There is a gentleman there whose wife had a disease they hardly knew what. She was examined and they diagnosed pellagra. This gentleman said it was untrue his wife did not eat corn bread at all. He left his wife in an institution of this State. He went back home and investigated. He found one of his renters had planted the corn and had gathered it and he found the corn was blue and he had fed it to his hogs and they would not eat it. He had this corn ground brought it back and set it in the pantry. His wife got the meal out of the large sack and baked the bread and she ate it. None of the other family eat of the corn bread that was cooked from that meal. She was the only one that had the disease. He told me he wrote the doctor he was certainly correct.

MUNICIPAL CONTROL OF TUBERCULOSIS

R. P. Izlar, M. D., Waycross, Ga.

It is evident that a subject as wide as that indicated by the announced title of the present paper can only be sketched on the broadest lines. It may be possible, however, to summarize certain of the lessons to be derived from the complex experiences of the last few years. The basis of the campaign is the clinical discoveries of the past twenty years.

If tuberculosis is an infectious disease, the cause of which is known and can be isolated, it is necessarily preventable. The organized effort, therefore, of the present day is in the direction of this prevention. That one means of prevention is the destruction of the cause is obvious. That the ability of individuals to resist an attack is a matter of observation and experience. Our efforts, therefore must be directed along either or both of these two lines, to eliminate the centers of infection and to increase the resisting power of individuals. The responsibility for action must be placed primarily and squarely upon the local public authorities. The private measures, other than those of education initiated by voluntary associations or individuals are all to be regarded as temporary expedients only, justifiable so long as public authorities fail to make proper provision, or as means of educating those authorities to a sense of their responsibility. With our political organizations, such as they are, it seems impossible to attack the disease in its recognized stronghold on a national scale under direction of the National Government. The Tuberculosis Campaign must be regarded as one of education and stimulation.

Experience has shown that municipal control properly

carried out is the greatest factor in the prevention of the disease. The municipal responsibility cannot be denied. It is a universally accepted fact that some kind of action or supervision is justifiable and necessary in the control of this dread disease, and the only difference of opinion is, as to the manner of the enforcement.

The efficient control of tuberculosis requires notification and registration of all cases. The importance of this measure is so evident that it seems hardly necessary, however, unless there is such a system the enforcement of any uniform measure for prevention is impossible.

Practical experience has made it perfectly clear that the objections which have been urged against it are without foundation. Notification of a case of tuberculosis does not require any action on the part of the municipal government, if it seems reasonable to assume that such action is unnecessary. The very fact that tuberculosis is reported by the attending physician as a communicable disease has a great value and justifies the assumption that reasonable and necessary precautions for the protection of others will be taken. If, however, the patient has the disease in an infectious stage and is without a home, or is living in a boarding house or poorly furnished room, or with a private family, then all objection to supervision of the authorities is removed, and in the interest of the public, such supervision become necessary.

It should be strongly emphasized that the mere fact of notification and registration has in itself a very powerful educational inflence.

To facilitate the early diagnosis of all cases of pulmonary tuberculosis free examination of Sputum should be furnished by the authorities, because in a large proportion of the cases of early disease the physical signs are not sufficiently definite to permit a positive diagnosis by the general-practitioner. An expert may easily

arrive at a positive diagnosis but the general-practitioner remains in serious doubt.

By many physicians the positive position is assumed that no case is to be regarded as consumption of the lungs unless T. B. is found in the Sputa. It is hardly necessary to point out how dangerous this position must be.

It is the general opinion that such free bacteriological examination should be made by the municipal authorities and that every convenience and facility for such examination should be afforded.

'Tis true that the State Board of Health make these examinations free, but it certainly is a great deal of trouble and expenditure of valuable time to be obliged to send all specimens to Atlanta for examination. How much more convenient to have these examinations made at home. It is a curious fact that physicians will send Sputa for examination but seem reluctant or unwilling to report cases of tuberculosis to the Health Authorities for registration. If every town and city had its own Bacteriologist and Health Officer combined, it would be easy to catch these fellows.

The education of the profession and the people on the subject of tuberculosis is of great importance, because only by a system of scientific hygiene instruction commenced in our public schools can we hope to accomplish much in the line of prevention and cure.

A local Sanitary Society is of vast importance to any community, they can distribute circulars designed to reach different classes of the community, and covering all phases of the subject, such a society can influence the pubic press in the diffusion of information.

Teachers in the public schools should be instructed by lectures, etc., and should in turn be required to instruct the pupils. I have advised the setting apart of one day in each month in the schools of my county to be designated Health Day. On this particular day the children

are to be instructed in health matters, tuberculosis in particular, in a systematic manner, by the teachers and physicians invited to address them.

The visitation of consumptives in their homes is an important part of the work of the authorities. At these visits verbal instruction should be given and printed circulars left for information of the patient and family. At the same time data should be gathered, as history of sick persons and of the family's social and financial condition. The patient should be advised to go to a hospital when for any reason he cannot get the proper care at home, or the sanitary conditions are not good. If the patient refuses institutional care, forcible removal must be resorted to in those instances in which the unsanitary conditions existing render it necessary.

The disinfection of rooms which have been vacated by consumptives is another important part of municipal control. Trained inspectors should be sent whenever it comes to the knowledge of the authorities that the premises have been vacated, and proper measures adopted to enforce disinfection. In those instances where the premises are dirty and filthy the owners should be required to perform the renovation. Disinfection should be done without cost to the owners. A serious difficulty exists in this connection, because of the frequent change of residence of families containing consumptives, and as the families become constantly poorer they move continually to a poorer class of apartments, it is often impossible to trace them or obtain information of their change of residence.

The owners of property should be required to give notice of removal of consumptives to the authorities. I believe this to be the only solution of this difficulty. Provisions should be made for making repeated visits, when for any reason it has been found impossible to remove the patient to in Institution. Only in this way can information be obtained as to efficiency of the precau-

tions adopted by the consumptive, as to changes in his physical condition or financial resources of his family and as to the necessity of any alteration required in the sanitary treatment of the cases. Suitable food, such as milk and eggs, should be provided by the Society or authorities in those instances in which the families are in such destitute circumstances that the proper food cannot be obtained and when the patient for any reason cannot be removed to a Sanitarium.

I believe it is the duty of all municipal and county authorities to provide, or see that there is provided, suitable institutions for our consumptive poor. 'Tis true that the State has an institution under way for the care of such cases, but 'twill be some time before completed, and when completed 'twill generally be overcrowded.

It is necessary to my mind that the authorities have control of all hospitals for advanced cases and that each county or city should operate its own hospital. There are certain varieties of advanced cases of the disease which it may be necessary to remove forcibly to the institutions and retain them. These cases are of several types: First, those who are discharged from other institutions as undersirable; Second, cases living in boarding houses and inmates of public institutions, not having facilities for their care; Third, cases which are almost necessarily sources of danger to other members of the family by reason of unsanity conditions.

Great poverty, as among our negroes, or overcrowding, but who are unwilling to enter an institution; Fourth, numerous cases which have already been under care in some institution and which became dissatisfied with their care and retention and are determined to return home, although the family is unwilling or unable to provide properly for them. All such cases, homeless, friendless, dependent, dissipated and vicious consumptives are the ones most likely to be dangerous to the com-

munity. They must be provided for by the municipal authorities at any cost, and if necessary the authorities must intervene and remove such parties by force to the hospital and detain them.

The authorities should provide proper Sanitariums favorably situated for the care of early cases. No further comments seem necessary on this phase of the subject. The authorities should issue regulations applicable to municipal institutions.

The admission of tubercular patients to the wards of general hospitals should be prohibited and all public institutions caring for this class of cases should be required to provide separate rooms, this, of course, applies to hospitals for the insane, homes and penal institutions. Suitable regulations should be made in regard to school teachers and pupils in public schools, employes of factories and all kind of establishments likely to disseminate the disease. The No Spit Ordinance should be enforced in all towns and cities and upon all public carriers. When we have educated the mass of people up to this view so that no one will tolerate the habit of spitting, the chief factor in the prevention of tuberculosis will be found.

A house to house inspection in the larger cities would bring to light many unreported cases of tuberculosis. These measures outlined include the more important provisions for the municipal care of tuberculosis.

Practically no serious difficulty would be encountered in carrying on the work. The obstacles are generally largely imaginary, and are really less serious than those encountered in connection with small-pox or diphtheria.

What may we reasonably expect from Municipal Control? Decrease in the death rate, and in the next few years I believe that the reduction will be far greater than at present.

I believe that tuberculosis is, of all the important infectious diseases with which we have to deal, the most

preventable, the experience of all health departments furnish proof of the truth of this conclusion.

In quite a number of measures and conclusions mentioned I have drawn largely from Dr. Biggs, health officer, of New York, and while this paper, perhaps, points out no new thing, it certainly will refresh your minds and enlist you anew under the Banner of Preventive Medicine.

DISCUSSION

Dr. Daley, of Atlanta.

We have a tuberculosis association in Atlanta that has been in operation three or four years. It is a hard thing to get people to clean themselves up, and it takes several months to get to him. When we find intelligent people who will do what we tell them we have no trouble, and when we have people who will not do then we have our nurses to go to the surrounding houses and point them out as a danger to the community. Where we find a tuberculosis family with any children we take them as possible cases who have tubercular infection, we treat them. We must have a public sanitarium.

Dr. J. M. Anderson:

Being possibly the only man present or one of the very few who is engaged in entirely tuberculosis work I desire to say. Of course what we are now discussing is prevention of tuberculosis. I see the rule that has been adopted by a good many cities, and I notice Savannah is employing nurses for the special purpose of educating the people along this line, is a good one. There are numbers and numbers of cases that will swear they have not got tuberculosis. All of their friends know that they have it and are afraid of them, but how are you going to get a patient that will not submit to an

examination. They continue to spit all over creation, but they will not do anything. There ought to be a law passed by which we can get at these people, and if you do not send them to a place like a pest house, you must have these nurses watch these patients, and force them to carry sputum cups. Give them to the patient and make them use them. If you will have the nurses get in touch with a few of the patient's friends, they can find out if the patients are using the cups properly, and if not they ought to be made to do it. That is the source of contagion, and if we make the patient use the sputum cup then we have gone a long ways.

Dr. Lokey, Atlanta.

Experience teaches in making laws in order to be beneficial they must be practical. In order for any law to be carried out to be of the greatest benefit to the people these laws must be made by the people. Unless they appeal to the general public these laws will be absolutely no good. Therefore in making laws for a tubercular sanitarium it is necessary as has been pointed out that the people at large must be educated to the necessity of enforcing these laws. The people in my community have been educated to a certain extent, and I might say that they have been over educated. They have been taught, and I believe every physician has that experience, that open air and careful dieting is all that is necessary to cure tuberculosis. After a case has reached a certain stage of improvement, and they all improve after they change the diet, he feels that he can take care of himself. He doesn't realize he is still a dangerous person to the community, as well as to himself. The public must be made to understand that they cannot treat the disease themselves. My experience is that the public is generally being educated by the literature sent out over the country and feel confident of

being able to handle their own cases, spreading the disease in a very wide manner.

Dr. Hardman.

I am very much interested in this paper. We should have our local authorties, city authorities to have certain registration and inspection of the cases, but one of the most important it seems to me is food inspection. The question might be whether human baccilli and bovine baccilli produces the same disease. Now then we want to ascertain whether or not our cattle are infested. It seems if we take all other necessary sanitary precautions and lose sight of this we overlook a very important matter. The government has made this statement that 10 per cent of our cattle are infected with tuberculosis,they say that 8 per cent of the beef cattle and 4 per cent of the bag are affected. I have had occasion to make a diagnosis of quite a number of cattle. I have made post mortem examinations and I found tuberculosis, and for that reason I think the food should be looked after as well as our sanitary conditions.

Dr. Toepel.

Education I think is the real true and strongest point that can be brought out and should be spread by everybody. I think when we have the people educated we will have no trouble in enforcing these laws. In taking the public of course we must begin with the public schools. Begin as we have been doing in Atlanta. As soon as the child comes to the school the first year. We not only give a lecture once a month by a physician and then the teachers to the children but give a weekly lecture to the children on how to take care of their bodies. Carry this out from the first year of their school life including the 8th grade of grammar school up to the 4th year of high school.

Dr. Allen.

The last speaker just made the point I was fixing to make, that the prevention of tuberculosis resolves itself in the question of education. It is my opinion that the great bulk of our population is not as well informed as we think they are. In fact, there is only a small per cent. I find that the majority of our churches are still using a common communion cup, and most all of our schools still use a common cup for the many children to drink out of. We must educate the people up to the importance of these matters.

Dr. Stovall

As representative of the rural districts and smaller places I desire to tell you what we are doing in Wayne county. I meet nearly every month with the school commisioners and teachers, and we have been doing it all this year and they seem to appreciate it. They have elected me a member of the teachers association, and they transfer what I say to the children—I just want to inform you we are already at work.

Dr. Welchel.

I have been very much interested in this discussion. We have a class of people we have to contend with in the South and we should insist on our municipal authorities to coerce when we go to educate the tubercular negro. In the first place they are not going to believe they have tuberculosis, and it will take coercive laws, and we have got to have such laws to control that class of people.

Dr. Adair, of Atlanta.

The discussion seems to be on the question of legislation. I do not think the essay meant that at all,

but when it comes to municipal law it is a different proposition, and I want to bring to you a word from the dental profession and the solution we have found. It may be new to a lot of you that the dental profession is one of your greatest allies in obliterating tuberculosis. I do not believe any institution can obliterate this disease. One single tooth will contain many germs. The dentist believeing that send out men to educate the dentist. Then we took it up with the Board of Commission of the municipality, and through the department or commission of each town we have made such an improvement that a great many cities make these patients clean up their mouths. In Atlanta we are a little behind, but we are going to be with them. You can make a private institution, but you can't make a man clean his teeth. You can educate the patient to do it. But to my mind the municipal control is the only way possible to do it, and that can be worked individually through the Boards, or Chamber of Commerce in your town. I just wanted to tell you the dental profession is working along the same line.

Dr. Izlar—Closing:

I believe as stated in my paper that the whole matter resolves itself into education and stimulation. You must first educate our children. This education must be a sanitary and hygenic education, commenced in our public schools, and I think a good way to educate these children is to inaugurate a plan as has been done in our county. We have a new sanitary primer which is taught the children. It is written in such a way that the children can understand and know. It is a curious fact how eager these little fellows are to learn. When you get before a body of children and tell them about germs of tuberculosis and hook worms, how they can prevent it; if you thank they will forget what you tell them you are mistaken. They go home and tell their parents, and

some little fellow will say when a cold night comes do not shut down the window, the doctor says put on more cover and not shut down the window. Only in this way can we hope to win this great fight. This fearful disease is causing the death of 275,000 people annually in the United states alone. Something must be done to stop it, and to my mind municipal control through education and stimulation is the way. It is not going to be this generation. The negro is a great source of danger to us.

THE DOCTOR AS A BUSINESS MAN OUTSIDE HIS PROFESSION

W. B. Hardman, M.D., Commerce, Ga.

When one makes up his mind to become a doctor he has in a manner decided to segregate himself from others. The doctor himself may not be so conscious of this as other people. The world never looks upon a doctor and a minister the same as upon other men—even other professional men. When one really becomes a doctor and not a professional cad or buffoon, the world usually takes him seriously, even old friends no longer greet him with a familiar slap on the shoulder. It is no longer "Hello Bill, Old Boy," but "How are you, Doctor?" Even the undignified "Hello, Doc" is fast falling into disuse.

This seriousness with which the public regards the doctor—this peculiar setting apart of the medical profession in the minds of the people and even the earnestness and gravity with which the doctor regards himself and his profession is a vital part of his stock in trade. It all has a good mental effect. Somehow the people want to feel that the man who stands often in the presence of maternity and death, who think often of their livers and appendices, should think seldom of matters outside of these things.

But the public generally admires a good business man. They make no exceptions in the case of a doctor. A doctor should make his charges commensurate with value of his service and the dignity of his profession and he should let the public understand that he expects his pay. A doctor should pay his own bills promptly and demand the same of others.

But when it comes to business outside his profession,

the doctor is handicapped to some extent on account of the facts just recited above, and also on account of his close confinement and the jealous care he must give to his profession and his patients.

It is hard to say just how far it is safe for a doctor to venture into business outside his profession. Of course all doctors should seek a safe and profitable investment for his surplus money (should he have any), and it should be the utmost endeavor of every doctor to have some money to invest. The accumulation of some capital lends dignity and prestage to the profession and in a manner helps to inspire confidence among the people. But necessarily a doctor cannot do justice to his patients and his profession and attempt too much on the side. Hence, a doctor's investments should be such as not to demand too much of his time and attention; especially of he expects to keep abreast of his profession.

But one of the main points I wish to emphasize in this short article is that a doctor, simply because he is a doctor, and labors under many disadvantages, should not narrow himself down to the position of a hireling, who works for his pay—gets it when he can, and spends it as fast as he gets it. He should put himself in position to be felt and respected in his neighborhood as a good, substantial citizen. A man capable of thinking and advising on other lines outside of when to take a purgative and how to raise a baby. I am aware that medicine alone is more in itself than any one mind can master, but it is not healthful and wholesome to feed on the same diet indefinitely. It is better for every physician to have some little diverting business or pleasure.

A doctor should be a genuine citizen, taking an interest in all public affairs, political, municipal, educational, hygienic, etc., for in all matters pertaining to the general welfare of the public he is capable of giving advice that can not be had from others.

I see no special objection to a doctor entering politics,

when he gets tired of medicine—(medicine and politics don't mix very well). There are many important matters of legislation which would never be enacted unless we had a few doctors in politics. But we need some doctor politicians. Sometimes going into politics spoils a good doctor and makes a poor politician. But some doctors make fair politicians. Occasionally one gets to Congress and, and Senator Galligher was once a distinguished physician.

But when it comes to business outside of his profession a doctor must be careful to let this business, whatever it is, be secondary to his profession. A doctor can have much outside business. He may run a farm or farms, own stores, traffic in real estate, take a whirl in politics, etc., but he should never do so to such an extent that the public will loose sight of the fact that first and foremost he is a doctor. A doctor who is reading, a doctor who is interested in his work and in his patients, for when he fails to do this he is a doctor who is drifting out of practice.

SOME END RESULTS OF NON-REMOVAL OF THE APPENDIX IN 23 ABSCESS CASES

R. M. Harbin, M.D., Rome, Ga.

The question of advisability in prolonging a simple operation for appendical abscess, by removing the appendix and dissecting out the abscess wall, is one that is argued pro and con by competent observers; but it is safe to say that a greater number of surgeons disagree from the radical operation. Prolonged anaesthesia, shock, trauma by manipulations in opening up fresh lymphatic areas, the spreading of infection in an already starved and septic patient, may be mentioned as the chief dangers from the radical operation; while the primary dangers from simple drainage, per se, are nil, with a possibility of recurrent abscess and a longer stay in bed.

Repeated observations on animals have shown a greater susceptibility to the inoculation of bacteria in the peritoneum, under the influence of prolonged anaesthesia, and with other conditions combine to produce shock.

The peritoneum is about equal in area to that of the entire integument of the body, and furnishes an extensive surface for rapid absorption. The peritoneum, however, is capable of taking care of a certain amount of bacteria, and the abundance of exudates proves a decided reaction property to septic processes. If the epithelial covering be impaired or destroyed by mechanical or chemical agents, this reactive power is lost, and septic peritonitis may result. Certain experiments indicate that bacteria can be found in the blood in five minutes after inoculating the peritoneum of rabbits, thus proving the septicemic nature of peritonitis.

While a patient with an appendical abscess has acquired a certain amount of auto-inoculation, local immunity to the harbored infection, at the same time his powers of resistance are lessened because of a starved and septic condition, and is less capable of resisting any fresh bacterial invasions. The rapidity of escape, as well as the virulence of the bacteria, determines whether the case will be one of abscess or one of a perforative and spreading type of peritonitis.

It is easily understood why the exudative remains of a previous attack, in many instances hinders the development of a diffuse peritonitis, and would tend to the formation of an abscess. In this series of consecutive cases, seven had previous attacks, while sixteen were primary. The dangers from incision and drainage are slight, because few fresh areas for absorption are opened up, and instead of the marked reactionary symptoms following the radical operation, we should have a lessened pulse rate and lower temperature by relieving the tension of the parts affected.

It is perhaps more satisfactory to feel, when the patient leaves the operating table, that he will be rid of any recurrent troubles, but such a feeling may be bought by many hazards. Of course the appendix should be removed when it can be done without undue manipulation or dissection.

I have had a series of abscess cases in which the appendix was easily removed but are not included in this report, and in these sinus trouble has been noted. When the appendix can easily be removed, a burden of sepsis will be lifted especially in those recent cases not fortified by a strong abscess wall.

We are confronted with a choice between the dangers of sepsis from a retained appendix, on the one hand, and the risk of spreading peritonitis by its removal, on the other hand; and we must bear in mind that post-operative peritonitis is more dangerous than the sponteneous

variety of the disease. Of course individual conditions should determine the proper course to pursue, and are not always clear. Where drainage has been established, the danger from a sloughing appendix protected by adhesions, is one of sepsis and not peritonitis, and depends on the virulence of the infective bacteria. If the type of infection be one of unusual virulence, an extensive dissection probably cannot be done in an aseptic manner, and will only aggravate the existing condition, while in other cases satisfactory results may be obtained by a gauze pack drain, leaving the process to the active reparative power of the peritoneum. I have frequently seen an almost normal temperature and pulse throughout, from this procedure. The few records of findings at autopsy of such cases show almost complete disappearance of the vestiges of the previous suppurative processes. The case is recalled of a perforated appendix embedded on the right side of caput coli, and appearing at the bottom of the incision, was enucleated. Thirty minutes after the operation there occurred a severe rigor, followed by death in twenty-four hours. Life may have been prolonged, if only packing had been done. All of these were late cases and no active search was made for the appendix.

This series of cases includes only those in which pus accumulated in the region of the appendix, protected by an abscess wall. The technique of operations consisted of short incisions, few manipulations, loose gauze drainage, supplemented by postural methods, such as that of Fowler, combined with the dorsal, left lateral and ventral positions, and proctoclysis of salt water. There were six, or 26%, cases of the parietal form of abscess. In other than parietal forms of abscess, the incisions were made below and to the right of the abscess, so as to invade the mass from behind, in order to make a portion of the iliac fossa a part of the sinus wall.

Prolonged drainage seemed to prevent recurrence, and with a short and low incision, does not increase the ten-

dency to hernia. Various surgeons estimate the recurrences from one to fifty per cent., and these operations lead me to suspect that such a variety of results is to be accounted for by a difference of technique.

There were three, or 13%, that gave recurrent troubles, but none were of serious import. In a child, the sinus discharged intermittently for eight months, and no recurrence has appeared in three years, and in another, a man thirty-five years old, the discharge continued six months, without incapacitating him from work, and has remainded well two years. In another, the retro-peritoneal abscess appeared in the lumbar region, and was drained there, but was reserved for another operation, when he disappeared from observation. There were no cases of fecal fistulea.

Clogg (Lancet Mch. 6-9.) reviews 96 cases of non-removal of the appendix in which the percentage of recurrent troubles was 42, divided as follows: Sinus, 18%; recurrent appendicitis, 11%; suppuration, 8%; subphrenic abscess, 3%; portal Sepsis, 1%.

Sixteen were operated in the remote rural districts, under unfavorable conditions, among the laboring class, who would likely give troublesome sequelea. No case had hernia after twelve months, and only one before that period. The average age was 16.6 years, youngest 4 and oldest 58 years. There were sixteen males and seven females. The longest time of attack before operation was nineteen, the shortest three, and average of eight days. Peculiar locations of abscess were noted in two cases, one appearing in the right lumbar region, and another in the middle line and adherent to the bladder. In two cases the abscess burrowed through the layers of the abdominal wall. The longest stay in bed was 30 and the shortest 20, and average 23.8 days.

This series of cases covers a period of ten years, in which sufficient time has elapsed to determine the final results. All are now living and strong, except one wo-

man who died from pulmonary tuberculosis twelve months after operation. There was one death, or 4.3%, from unabated sepsis after twenty-eight days.

ABSTRACT

(1) The choice lies between the danger of sepsis from a retained appendix, with a possibility of recurrence and longer stay in bed, on the one, from simple drainage; and that of spreading peritonitis, on the other hand, from the radical operation with its immediate dangers.

(2) The usually starved and septic condition of the patient with an appendical abscess, does not warrant a radical operation.

(3) The remarkable reparative powers of the peritoneum argue for the simple operation.

(4) The suggestive value of this limited series of cases warrants the belief that recurrences after the simple operation are rare, and still more rarely serious.

(5) There was a mortality of 4.3%.

TREATMENT OF CHRONIC AURAL DISCHARGES

F. Phinizy Calhoun, A.B., M.D., Atlanta, Ga.

This paper deals with chronic aural discharges of middle ear origin, and discharging ears of more than three months duration are usually considered chronic.

While the medicinal and operative methods of treatment will only be discussed, I believe that it will not be amiss to briefly mention the prevention or prophylaxis for chronic discharging ears.

Ear aches following the acute exanthemata and infectious diseases, are common among children, and to allow the child to suffer during an attack, until relieved by an opiate or until the drum membrane ruptures spontaneously, increasing the chances for his discharging ear to become chronic. The relief for such a condition is a myringotomy, and it is best accomplished under a general anaesthesia. The usual after treatment which consits of a warm mild antiseptic irrigation of the canal until the discharge entirely ceases, together with occasional Politzeration or inflation of the middle ear, offers the best possible chance for a recovery.

Repeated attacks of ear aches following colds, often going into abscess formation, are common occurrences in childhood. Such conditions are usually produced by adenoid vegetation in the naso-pharynx, or the presence of hypertrophied tonsils.. The same treatment of a myringotomy when indicated, with the after treatment of aural irrigation, together with the removal of the adenoids and tonsils following these acute attacks, places this class of patients on the best road for a permanent recovery.

Finally, allowing the acute abscessed middle ear to

become complicated with an unattended, or undiagnosed mastoiditis, discharging its contents through a ruptured drum into the canal, it is almost certain to discharge for months, if not years, and on account of the pathological changes taking place, it forms the most resistant type to treat. Not only does this patient have diminished hearing, but from this chronic discharge, life is in constant danger from a sinus thrombosis, brain abscess or menigitis which might develop.

Usually acute or chronic middle ear imflammations are considered lightly by the general practitioner, and most trivially by the laity. From the otologist standpoint, they are most important. Undoubtedly there are many hundreds of cases of chronic discharging ears in our State, which could have been avoided by simple remedies, and certainly there are many deaths a year from this same trouble, complicated by menigitis, sinus thrombosis or brain abscess, diagnosed idiopathic menigitis brain fever or malaria, on account of their similarity.

In the treatment of a case of chronic middle ear abscess, cleanliness is most important and essential, and the discharge as it collects in the canal, should be thoroughly removed with a normal saline, boric acid, or weak bichloride irrigation as often as necessary, usually three times aday. The first two mild antiseptics are preferable, for a solution of bichloride of mercury used in children, running down an open eustachian tube into the mouth, might be swallowed, and cause some serious result. This damage is not so apt to occur in an adult.

One should inspect the ear drum, and note the character and location of the perforation. The condition of the nose and pharynx should also be observed. Some physicians complain, that to learn the use of the ear speculum and post-nasal mirror, and know what they see, is about as difficult as the use of the opthalmoscope. With a good mirror and light, and some little patience, one soon becomes familiar with normal as well as pathological

conditions, or can at least learn the location and character of the drum perforation.

In my private practice, I make bacteriological examinations by smear or culture of the aural discharges, also a search for crystals of cholesteatoma. Often much information is gotten, and at times a knowledge of the infection gives considerable weight to a prognosis.

Following the irrigations mentioned, astringent solutions are indicated, and perhaps the most popular is the zinc sulphate in proportions of eight grains to an ounce of a saturated boric acid solution. This, as should all ear drops, be warmed before pouring into the ear. The patient should lie on the opposite side, and the liquid allowed to remain ten or fifteen minutes. If there are granulations in the fundus of the canal, sprouting through a perforated drum, a few drops of the following formula will often dry up the discharge and graunlations:

R. Sol. Bichloride of mercury 1-1000
Alcohol .....aa oz-ss
M et Sig:

Drop in the ear luke warm three times a day.

95% alcohol acts even better upon large granulations or in obstinate cases, but as it is often very painful, it had best be preceeded by a few drops of warm 10% cocain solution.

Peroxide of hydrogen is highly recommended and often used by men of great experience. It undoubtedly does good, and cleanses the middle ear as no other drug, at the same time, it can cause harm, and from my sad experience in one case in which a meningitis development following its use, by carrying the infection through an orifice in the roof of the tympanum to the meninges, I have abandoned it entirely. In a nearly closed cavity, as in the middle ear, I hardly think peroxide is justifiable. In the discussion of this paper, I am sure many will take exception to this particular view.

Many other preparations are used and recommended, such as pyok-tannin, solution of formaldehyde, etc., but they are only makeshifts when all other treatment has failed. It is, however, a well-known fact that changing from one proparation to another, brings about better results in obstinate cases.

Attention should be directed to the naso pharynx for adenoids, and to the pharynx for hypertrophied or diseased tonsils, and if there is the least reason to suspect that by their presence or pressure, they are casuing or keeping a chronic irritation, especially about the tubal orifice, they should be removed.

In inspecting the drum and determining the extent of the perforation, it must be borne in mind that the perforation should be enlarged if the discharge from the tympanum continues to be foul and profuse, or if there are symptoms of retention. If there are granulations or polypi present, they should be removed by instrumentation or cauterization, as they cause a retention of the discharge. The alcohol drops recommended will frequently aid the drying up of the smaller granulation that remain.

In addition to the irrigation, ear drops, attention to the naso pharynx, etc., previously mentioned, the tympanum should be frequently inflated by the attending physician in order to rarify the air, and drive the remaining discharges outward. The simplest method is that of Politzer.

The climate and altitude in which these patients live has much to do in either keeping up the discharge, or improving the condition. To illustrate, I have now under my care a young man from lower Mississippi, and a middle-aged lady from lower Florida, who from early childhood have had discharging ears following measles. As soon as they reach a high altitude, they at once improve and it takes but a few days of office treatment to cause a cessation of the discharge. Within a few weeks after their return home, almost certainly following a mild

cold, their ears commence to discharge. The natural inference is, that a high, dry climate is better than a low moist one. I have had the young man in Atlanta all the winter, and as far as the discharge is concerned, it has entirely ceased.

Sea bathing and the common "going in washing" of our country boys are most harmful to the discharging ear, and it often causes the outbreak of an attack that has long been quiet. Medicated cotton, or wool should always be worn in the canal when indulging in this yearly pleasure.

The treatment just outlined, faithfully carried out by the physician and patient in the great majority of cases, I should say 60%, will bring about a cure. It is needless to remind you that such cases are more liable to recurrences, than one never afflicted with ear trouble.

Notwithstanding the care and attention that is given the patient, there is a good proportion uncured, and at the conclusion of several months treatment, they are in about the same condition as when first seen, except, perhaps, the discharge is less foul. These cases demand operation, and I would name the indication for a radical mastoid operation as follows:

First—Cases that have resisted all medical treatment, faithfully and conscienciously carried out.

Second—Cases that show signs of internal ear involvement, or erosion of the facial canal, like dizziness, vertigo, headaches and facial paraylsis.

Third—any signs of increasing inflammation or infection like a rise in the temperature, or a beginning mastoid involvement. Any symptom of mastoid involvement like a post auricular swelling, or tenderness on pressure over the mastoid, should receive immediate surgical attention.

The operative treatment of chronic discharging ears is becoming more conservative each day, and it can be safely said that the experimental side of this work has now passed, and the operation is based on sound surgical

principles. One of two operations are usually performed in the treatment of the condition under consideration: The first is for the relief of the discharging ears alone, and this is accomplished by the conversion of the antrum of the mastoid and the middle ear into one large cavity, by lowering the posterior wall. It is really a delicate operation, as many important structures like the facial nerve, the meninges, the semicircular canals, the lateral sinus and carotid artery are constantly before the operator. This operation means the residence of the patient in a hospital for at least ten to fourteen days, and dressing and attention by the surgeon for many weeks afterwards. A permanent cure is brought about in about 60% of the cases. This operation is commonly known as the Stacke operation.

The second operation, the so-called Schwartze-Stacke operation, combines two features viz., the operation for an acute mastoiditis—a curettment of the mastoid cells (the Schwartze operation) and the relief for a chronic discharging ear—the method just described (the Stacke operation). The operation is never done by preference, as is the Stacke operation, but always from necessity, and residence is required in a hospital for several weeks, and nothwithstanding the seriousness of the case, the percentage of cures is larger and the time shorter than the Stacke operation.

I have purposely left to the last, the condition known as cholesteatoma of the middle ear, and its subsequent mastoid involvement. It is a collection of desquamated epitheial cells in the middle ear, brought about oroginally by a perforation of the drum membrane and a secondary infection, and from what might be called pressure necrosis, the middle ear and mastoid are usually involved. An operation is usually indicated and one never knows until the mastoid has been opened, the extent of the destruction.

The method of treatment that I have suggested, one

that has been tried and given good results, or any other that might appeal to your judgment, should be faithfully and persistently carried out, then when there is failure, the Otologist should be consulted for advice, or to perform the radical mastoid operation.

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DISCUSSION

Dr. H. R. Slack, LaGrange: I have listened with great interest and profit to the paper just read by Dr. Calhoun, and I agree with him in the main line of the treatment outlined. In my personal experience, however, at least sixty-six per cent. of the discharging ears that I have come in contact with could be traced to the presence of adenoids and diseased tonsils; so soon as the adenoids and diseased tonsils were removed, if done thoroughly, the ears would be able to take care of themselves unless some complication arose. I have in mind now a young man who was brought to my office; he was an engineer, a sufferer from rheumatism; he had an otorrhoea and had great difficulty in deglutition. A careful examination showed that he had very much inflamed and enlarged tonsils and the ears were discharging a purulent material. He had a high fever. He had also an infection of the right knee. I performed a complete tonsillectomy, removed the adenoids, and syringed the ears well. In a very few days he was entirely cured of his trouble. I have had a large number of such cases where, after the removal of the adenoids or diseased tonsils, the ears have ceased discharging, and cure has taken place in, as I have just stated, at least sixty-six per cent. of the cases. As a result I recommend that all persons who have an otorrhoea should be carefully examined to see if there are present adenoids or enlarged and diseased tonsils.

Dr. Hugh M. Lokey, Atlanta: Cases of chronic suppurating ear troubles occurring in children are very often found associated with adenoids and diseased tonsils. In

adults an acute otorrhoea might be primarily caused by foreign substances. Very frequently granulations in the middle ear may be a cause of the discharge and, in some cases, a necrosis of the bone. In the treatment of these cases, after the removal of the adenoids or diseased tonsils, it is often necessary to continue the local treatment before the discharge ceases; in many cases it is necessary to keep these cases under observation long enough to relieve the tympanum of these graunlations and thickened tissues before the discharge will be stopped. One of the most important things to be attended to is, besides keeping the canal properly irrigated, to keep the membrane dry, as dry as possible, and this can be accomplished with the use of a pledget of cotton on the end of a tooth pick. Every physician should use an ear speculum; then with an applicator he can treat the canal; in this way he can get a good view of the tympanum and the opening in the drum membrane and this part of the middle ear thus exposed he can keep under his constant observation. It is very important that the canal should be kept under observation for some time, and also that it should be kept dry, relieving it of all moisture possible. With the Politzer bag, the ear should be inflated. In the cases that have a very profuse purulent discharge I use the otoscope besides the Politzer bag, and suck out as much of the pus as is possible; in this way pus may be removed from the attic and other parts of the ear which cannot be gotten rid of by the Politzer bag alone. In using the otoscope it is very necessary to keep a very close watch of the tympanum because the opening in the drum membrane is small, and bulging of the drum membrane may be produced. I find it is best when there are granulations present, either under a local of a general anaesthetic, in children, to use a small curette and remove as much chromic acid and destroy as much as I can of the graunlations. Silver nitrate, fifty or sixty grains to the ounce, is of benefit. Pyoktanin, two grains to the drachm in pure alcohol, is also of

value in the treatment of these cases. This latter is of great value but it is very mussy, makes the part look as if an ink well had been upset; it gives the part a very unsightly appearance. I agree with what Dr. Calhoun said in regard to the use of peroxide of hydrogen; although it will destroy the pus producing bacteria, yet by means of its effervescence it will cause some of the pus to enter the Eustachian tube, or the mastoid antrum, and may cause inflammation and a mastoiditis.

Dr. St. J. B. Graham, Ellijay: There is quite a difference in the treatment of ear diseses at the sea level and in high altitudes; at the sea level there is a pressure exerted upon the ear drum of 14.99, or fifteen pounds to the square inch. If the Eustachian tube be closed or occluded the pressure is greater and might cause it to be broken in. The Eustachian tube is dry; therefore, the drum membrane becomes dry and the pressure, as a consequence, is less.

Tuberculosis is a disease which we should more often take into consideration, because of the fact that the disease gains an entrance through the cripts of the tonsils. Among the large number of cases of otorrhoea seen years ago, about eighty per cent were said to be scrofulous in nature; the disease then was supposed to be simply scrofula, a disease which is now recognized by us all as being tuberculous. Therefore, there were many cases of otorrhoea which resulted from a tuberculous condition of the ear.. Whether the tubercle bacilli enter through the cripts of the tonsils or not I do not know, but this we do know, that dryness of the ear resulting from living at high altitudes frequently result in cure of the condition without further remedies.

Dr. R. R. Daly, Atlanta: I agree with what has been stated in regard to the use of peroxide of hydrogen in the treatment of discharging ears; its value is not very great; it does not kill many germs. It will, however,

shove the pus around, getting it into places that we do not want and may produce very disastrous effects.

With regard to chronic discharging ears, all are agreed as to the kind of operation to be performed when certain indications are present. But the great thing for us to consider is prophylaxis. The operation of myringotomy should be more often taken into consideration. The general practitioner is the one who is consulted so frequently because the patient has an ear ache; and such ear aches can very often be cured by the proper performance of myringotomy, thus getting rid of the pus in the canal. I have in mind now a patient, twenty-two years old. In fact, I have in mind two such cases. One had a purulent discharge from the middle ear which had lasted for some time. This patient was anaesthetized, a myringotomy performed, the pus allowed to escape, and the man was discharged cured in ten days.

Only last Saturday a patient, twenty-eight years old, came to me complaining of ear ache. A myringotomy was promptly performed and the patient was discharged cured on the Monday following.

To me prophylaxis is of the greatest importance. Patients should be taught to pay more attention to ear aches. The membrana tympani should be more often gotten at and opened.

Dr. F. P. Calhoun, Atlanta: (closing discussion): I agree with Dr. Daly in what he has stated about incising the drum membrane when patients come to you complaining of pain in the ear. It is very important and very essential that every general practitioner, who is the person usually first called in to see such cases, when he sees the drum membrane is reddened, to know when and where to open it.

I am glad so many of us are agreed and have the same belief in regard to the use of peroxide of hydrogen in the ear. Since the sad experience I have had with it, I do not see how it is possible for me to again use it.

ELIMINATION, OUR SAFEGUARD.

B. P. Oliveros, M.D., Savannah, Ga.

The old humoral idea of a materies morbi being the ground work for certain diseases and that this same materies morbi could be eliminated from the blood, is not so far from the truth as would at first appear. There may be a decided lack of demonstration, but it is a well known fact that noxious materials can be expelled from the system, this we see verified in the use of a certain class of drugs known as diuretics and diaphoretics.

Modern Science seems to point out clearly that this class of drugs may aid in separating from the blood retained secretions and may to some extent replace the action of the kidneys when these organs are disabled by disease.

The action of any medicine can be followed from the time it enters the stomach, to the time it makes its exit through the excretory organs. Some medicines chiefly influence the primary assimilation, others again, attack and change the process of assimilation, probably aiding a new growth of tissue or a distictive metamorphosis. After all, the application thereapeutically, of any remedy, is governed altogether by the conception of its physiological action.

The eliminating action of certain drugs is among the most assured of clinical facts, as is also the treatment of many diseases, by the application of certain well known remedies. The few specifics that we have do not always cure or give us even the results to be expected, nevertheless, they are potent factors in our fight with disease.

Dr. Jacobi, in an address before the State Society of

New York, pulls us up sharply, when he tells us that nihilism in the use of drugs is the vogue of today; that expectant treatment is a crime, a compound of ignorrance and indolence, and states plainly that many men fail to use drugs and preach the doctrine of their ineffciency, because they do not know how to use them, thereby, neglecting what nature and sound therapeutics furnish.

However, let speculation and surmise grow rife, the therapeutist may not be able, in many instances, to give reasons for results, the theorist can only theorize: the physiologist is a long way from the goal and the pathologist is still groping in the dark and unknown paths for the whys and wherefores of morbid processes.

As the therapeutist cannot explain the eliminative action of certain drugs, the fact remains that elimination does take place. As the physiologist is still in the dark about the real dominant force in the nutritive process, we, at the same time, know that we have a general nutrition. Neither can the pathologist explain the real reason of the morbid processes which are altered and gotten rid of, by means of eliminants, for, after all, the study of pathology, is not the sum and substance of medical endeavor but is rather a means to an end.

Science, tells us, through many eminent authorities, that urea can be found in the skin excretions during the stages of Brights disease or where there is supression of urine, as in Scarlet Fever and Nephritis-Sugar in the perspiration of diabetics, lactic acid in that of Rheumatism and biliary products in that of Jaundice. I feel, that we here get the index from nature, pointing out to us the imitation of these processes, the assiting of this elimination, and it is certainly here, where the value of diuretics and diaphoretics, as a means of getting rid of retained excretions and eliminating retained secretions, would attract our attention.

There can be no doubt of the immense advantage

gained by an increased flow of urine or a profuse perspiration in certatin conditions, in fact, in many conditions.

In twenty-seven years of practice I have never known a case of puerperal eclampsia to take place where the pregnant woman has been carefully guarded, where elimination in every form necessary, was taken advantage of. There is no condition known where there is a greater aptitude or a more momentous time for the formation and retention of noxious materials. It is in such cases that elimination does wonders. Time after time have I seen eclamptic cases go to full time and safely delivered by means of kidney drainage alone.

If we bear in mind the exciting causes of puerperal eclampsia, the principal of which are, Anaemia, Albuninura, Araemia, Indigestion, Constipation and retention of urine, or, to use a more general term, toxemia, which is brought about as a result of all or any one of these causes and go over the list of remedies or the usual run of treatment it is brought forcibly to our minds that elimination is, after all, the main feature of the treatment and the one thing we look to for good results.

What more potent factor have we to save the life of the eclamptic patient than, venesection, this, to me, is one of the best of all eliminative procedures, we relieve blood pressure and at the same time take danger away from the kidneys, pending the full and safe performance of the duties of these organs.

During pregnancy, poisons are formed in the mother and foetus which circulate in the maternal and foetal blood; upon the mother is thrown the burden of eliminating by the kidneys, liver, intestines, skin and lungs the bulk of the poison within the two organisms. It is upon the retention of these poisons that we get heightened arterial tension which produces the eclampsia, the kidneys showing that they are at fault by the urine containing albumen. It seem to me pertinent, just here,

to ask the question whether albuminurea is not an index that intoxication has begun and that the kidneys are not eliminating the normal poisons?

We should bear in mind that albuminuria in a woman does not always spell eclampsia, not even when there is solid boiling. Likewise should we remember that, in the pregnant state, we have this albuminuria index and must not rush to the extreme measure of producing abortion or bringing on early labor, every time we find a little albumen in the urine; we would in that case, save many a woman and many a foetus which is otherwise lost.

In Brights Disease there is only a small daily loss of albumen, small, in comparison to the amout of exhaustion, the loss of this small amount, is then, not the cause of the exhaustion. Compare this with the nursing woman, she will lose a far larger amount of albumen or other proteid in her lacteal secretion and yet there is no exhaustion. This would bear me out, in the idea, that we should not give our whole attention to this albumen in the pregnant urine, as it apparently, only indicates that toxic material has been introduced into the blood and is exceeding the activity of the kidney which is charged with the function of eliminating it. Let us hasten to assist this elimination and what better way than by the use of diuretics, diaphoretics and purgatives.

I am aware of the fact that many physicians do not believe in diuretics, but this only brings us back to the doctrine of the inefficiency of drugs and the want of experience and investigation of the nihilists. I am convinced after many years of experience that diuretics will prevent puerperal eclampsia. It has been my invariable rule, as soon as the pregnant woman begins to complain of headache or spots before the eyes, to eliminate through the kidneys and to assist this by bringing to their aid the assistance of the other emunctroies. As Porter tells us,

the one idea is to soften and expand the vascular walls. We have remedies of the diuretic class which lower the tension in the splanclinic Arcade, especially of the renal arteries and the afferent vessels of the glomeruli, lessening the quantity of water and increasing the amount of nitrogen which is thrown out, thus bringing about a more natural state of affairs in the circulation of the kidney, esepecially betwen the intertubular plexus and the vessels of the glomeruli.

We know and believe that the normal kidney is the best emunctory which we have and that it can eliminate infinitely more toxic material than it generally does; so, we can see clearly, that when giving diuretics. why such magnificent results are obtained. We, by this means, put the kidney on an increased working basis, causing it to throw out more and more toxic material which, as stated, it is fully capable of doing and thus rendering harmless a condition which we know to be so dangerous and causing that, much to be feared, state of affairs which we find in puerperal eclampsia.

With the exception of gaseous material the kidney can eliminate all the poisons found in the human organism as fast as they are produced and, strange to say, it never absorbs a single part of the products which it eliminates.

As we get on further into the subject of elimination and the use of drugs considered as eliminants, we open up a field of vast possibilities. We have open door outlets, by the skin, by the intestines, by the lungs, the action of diaphoretics, evacuants and expectarants. If by the skin we have elimination of water, salts, carbonic acid and possible volatile fatty acids, we can but feel that diaphoresis produced by diaphoretics, even though poisons themselves, may not be eliminated, is useful, in as much as, it is probable that abnormal products, formed under the influence of poisons, are thrown out.

By the lungs are thrown out or eliminated carbonic

acid and probably many unknown poisons; any drug which assists this form of elimination is, of course, useful.

The part played by the intestinal emunctory in the elimination of certain poisonous substaances is, next to the kidney emunctory, the most important that we have. The wonderful advantage of a diarrhoea, at tmies, cannot be denied. The fetid odor of evacuations bear their significance.

With purgatives we eliminate by setting up a diarrhoea, thus de we dehydrate the blood, no doubt removing poisons from it; we, in this way, relive the kidney also, assisting it as an emunctory, owing to the fact, that during the purgation the urinary toxicity is diminished, because poisons that exist in the intestines and in the tissues, are also found in the urine.

It is of inestimable value in general sepsis to eliminate through the intestinal canal and the skin, as well, as through the kidneys. Where there is tympanites following abdominal operations or other surgical procedures or a large collection of gas from any cause whatsoever, a purgation causes or brings about a very satisfactory improvement. How may this be accounted for, unless it be, that certain poisons are eliminated, since it is a certainty that all gases found in the intestines are not formed there.

In the marvelous advance of surgery today, let us not overlook the possibilities of medicine. Let us pay more attention to our true and tried drugs. It makes no differnce that we do not know why mercury cures syphillis or iodide of potash, rheumatism, to deny these facts would be as absurd as denying the syphillitic or rheumatic dyscrasia, since we do not know their ultimate nature.

We have no inefficiency of drugs, provided we know the drugs we use. I we can only master those that are capable of maintaining the action of the kidneys, of producing the evacuation of fluids, of altering the urinary secretions or those that relax the skin, reduce the cir-

culation or directly stimulate the glands of the skin, we will have attained powerful auxiliaries in the battle against disease.

DISCUSSION

Dr. Thomas J. Carlton, Savannah: I have enjoyed the paper just read very much because it emphasized the improtance of elimination, a subject which is worthy of all that can be said of it. We recognize today that faulty metabolism, defective elimination, occurs in a great group of cases, and especially in the group which is labelled "Bright's Disease," and particularly in those people who have passed the age of forty (40) years. This also occurs in the glycosurias.

Dr. Oliveros also referred to the eclampsias; I think that today we can safely say that eclampsia is a preventable disease, preventable through careful regulation of the diet, thorough elimination through the kidneys and skin. Our trouble is that we are apt to build too little upon this, **elimination.** I believe that the number of salts and diuretics that are now upon the market shows that our friends are sharper along this line of work than we are. In many of the cases of so-called chronic rhemutism, iodide of potash and other things are given; but we should come down to a careful diet and careful elimination, we should keep the bowels open and the kidneys well flushed and the skin active. By so doing, without the action of any specfic drugs, the patient should make a rapid and continuous progress. Again in cases of toxemic arthritis, for instance, a condition which causes so much worry, give a good dose of calomel and a diuretic, and the patient will begin to improve, as a rule, at once.

I am very glad that the doctor brought out so many good points in his paper. For years I have been impressed with the influence and the great importance of elimination, and the part it plays, especially in those over forty years of age.

REPORT ON AN UNUSUAL CASE OF PNEUMONIA

J. E. Summerfield, M.D., Atlanta, Ga.

Those of us who are called upon to treat a patient having Broncho-Pneumonia, realize how seriously ill such a patient is and how dubious is the prognosis, when we find the patient with an anxious expression of the countenance, high fever, cough, dyspnoea, pulse 100-120, respirations 40-50 per minute and the patient struggling for life. Fortunately for us, in the majority of such cases, resolution soon sets in, the pulse and respirations return to the normal and our patient is on the high road to recovery.

If a patient with a history as given above is a cause of anxiety, how much more worried must we be when we find a patient with all these symptoms greatly exaggerated and this grave condition continuing for some time. As the case to be reported ended in recovery we felt well rewarded for the worry and time spent. I trust that the report will interest the members of this Association.

Sarah B., age 3½ years, with a negative family history, had never been sick until the early spring of 1909, when she and all her brothers and sisters had whooping-cough. The attack was comparatively mild and lasted about five weeks, leaving her with a hacking cough which persisted about three months. On October 6th, the mother noticed that the child coughed but as it seemed to be slight and did not inconvenience the child nor keep her from her play, no attention was given to same. She was put to bed at her usual hour, apparently well. During the night the parents were awakened by her cough and her rapid and difficult breathing. They attempted to arouse her but met with poor success. I saw her shortly afterward and found her in the following condition:

She was in a stupor from which she could only be

aroused with difficulty, cyanotic, dyspnoea quite marked —pulse 160, respirations 100 per minute—temperature (rectal) 103°. Examination showed throat normal. Chest on percussion, small areas of dulness both anteriorly and posteriorly—on ausculation medium and fine moist rales over entire chest. Abdomen highly tympanitic. Diagnosis: Broncho-Pneumonia.

A hypodermic injection of 1-100 grain of nitrate of strychnine was given at once. This relieved the cyanosis somewhat but had little or no effect upon pulse and respirations.

Consultation was asked for and granted. The consultant suggested the possibility of membranous croup, so a culture test was made from the throat but with a negative result. At my suggestion, the child was removed to a private hospital as the mother was unable to give her the proper attention and besides, three other children slept in the same room. For nearly two weeks the exhausting rapid pulse and respirations continued, the respirations rarely going below 90 per minute. The tympanitic condition was also the cause of much worry and frequent turpentine and asafoetida enemas gave some relief. After two weeks the chest began to clear up—the respirations and pulse became less frequent and at the end of four weeks the patient was discharged with a pulse of 90 and 22 respirations per minute. The treatment was as follows:

1-100 grain of strychnine nitrate and 1-500 grain of Atropine were given every four hours—inhalations of oxygen given at frequent intervals. A cough mixture containing Terpin hydrate, Heroin and Cascara was taken for some time.

About six weeks after her discharge I was called one midnight to see her as she had fever, cough, complained of pain in her chest and her respirations were 60 per minute. An expectorant quickly relieved her and in the course of four or five days she was discharged. I saw

her several days ago and her mother stated that she had remained entirely well since her last illness.

DISCUSSION

Dr. John Edge, Toccoa: I recall a case in which I employed treatment similar to Dr. Summerfield's. This child was nine months of age. There was quite an epidemic of broncho-pneumonia in my section of the country at this time. The baby had been sick about three days before I was called. He had a temperature of 103, a pulse of 180 and respirations about 90. I ordered strychnine and atropine and, in addition digitalis. In nine days the condition subsided and the child made a complete recovery. I do not know just what effect the administration of digitalis had upon this patient. This child had no careful nursing and no hospital care.

ACUTE CATARRHAL BRONCHITIS.

A. A. Barge, M.D., Newnan, Ga.

It is a recognized fact by many of the highest authorities that a large per cent. of the cases of Acute Catarrhal Bronchitis is due to what is commonly called **taking cold,** and is manifest primarily in the upper air passage which subsequently involves the large and smaller bronchi by entension from above.

It is stated by good authority that few cases are recorded where the bronchi were the seat of the primary attack. This being true, it is reasonable to assume that the cause is the same regardless of the location of the affected area.

Copland says that the investigations of Ritchie clearly established that there is no specific organism for bronchitis, but it may be the result of infection by pneumococci, streptococci and occasionally staphylococci, while there are cases due to a mixed infection and in cases of grip it is due to the Bacillus Influenza.

I admit the possibility of a primary Acute Catarrhal Bronchitis being caused by the action of the different bacteria, and yet I can scarcely understand how the bacteria can develop except the vitality of the mucous surfaces is lowered and the secretions changed in character by a blood dyscrasia.

The reaction of normal blood is alkaline and alkalies dissolve mucin, leaving no suitable media for the development of bacteria. But with reduced alkalinity of the blood and the consequent lowered vitality of the entire system due to the acid products floating in the blood it is not difficult to understand how bacteria develops in the tough mucus with a nuetral or slightly acid reaction.

A. Habel reports a case that from my view-point, sup-

ports this position. It is a case of chronic fibrinous bronchitis in a woman aged forty-one years, with long-standing mitral insufficiency and stenosis, who expectorated fibrinous casts for about two weeks. He examined the casts, found them composed of mucin and of acid reaction which he thinks was the cause of coagulation. He thought, however, that probably bacteria caused the bronchial secretion to become acid. He seems to have overlooked the fact that alkalies dissolve mucin and in this case would have, no doubt, caused the mucus to flow freely and be expectorated had it not been acid when secreted.

It may be asked, if a blood dyscrasia produces catarrh, why not affect the entire respiratory tract at once? The answer may be given on the same principle as a case of acidosis following ether anesthesia where the nausea and vomiting are due to the resulting blood dyscrasia, but set up by the action of the ether on the stomach as an exciting cause.

The relief given by stomach lavage followed by the administration of bicarbonate of soda solution is so manifest as to confirm, if not establish, the diagnosis. As the local manifestation of these cases is tracable to an exciting cause so may the exciting cause in bronchitis be dust, sudden inrush of cold air, or chilling of certain portions of the body which through its direct or reflex effects acts as exciting cause by producing congestion of the parts with resultant discharge of an acid fluid which continues the irritation as it passes over the mucous surface until nature, by slow process, on account of disturbed metabolism, reduces the blood to its normal alkalinity or the physician, by administering alkalies, does it quickly.

The prevailing theory of taking cold from sudden cooling after active exercise is much more satisfactorily explained on the theory of reduced alkalinity of the blood. It is a well known fact in physiology that active

muscular exercise, in consequence of the development of acids in the muscular tissues reduces the alkalinity of the blood and when we add to this sudden chilling which causes tremors of the muscles so manifest at times as to produce shivering such muscular action though imperceptible doubtless augments the reduction by increasing the acids and possibly retarding elimination of acid products from the blood until it reaches that point in reduced alkalinity where it becomes pathological as often manifested by catarrh.

Sudden heating of the body followed by sudden cooling is explained in the same way.

The question naturally arises as to why it is that after all feats of active muscular exercise, when the alkalinity of the blood has been reduced one does not have catarrh, and the answer is manifest in the well-known fact, that man within his body is able to manufacture ammonia in almost unlimited quantities to combine with the acids and neutralize the acid products in the blood and tissues, provided, however, that there is no interference with natures course.

The reason for assuming that chilling the body or parts of the body retards elimination of the acid products of the blood, is the fact that catarrh is produced by it and the muscular tremor would seem insufficient to reduce the blood to pathological state without retarding elimination of the acid products.

Again the question may be asked why it is that children and nursing women suffer more frequently from catarrh and bronchitis than women, during gestation, and men do? The answer may be read from Landois' Physiology of the Blood, which says: "The blood of children and women exhibits a lesser degree of alkalinity than that of men, and that of nursing women a lesser degree of alkalinity than pregnant women."

The fact that women during gestation can and do spend hours during the cold winter nights sitting in

drafts at open windows in their night clothing fanning and panting for breath without the slightest manifestation of subsequent catarrh, is explained on the ground of increased alkalinity of the blood.

DIAGNOSIS

The diagnosis of uncomplicated Acute Bronchial Catarrh is not difficult.

If the large or middle sized tubes are involved there is soreness or a raw feeling underneath the sternum and most intense higher up. There is usually a tickling sensation in the throat and a sense of weight or oppression on the chest. The cough is hard and dry which strains the muscles and causes myalgia. Cough is often worse on lying down and of mornings after a nights rest. Fever is usually of short duration and ranges from 101 degrees F. to 101.5 degrees F. The expectoration at first, is frothy, white viscid mucus, later becoming more abundant and muco-purulent. The percussion note is normal. The respiratory murmer rougher and harsher than normal; the rales can be heard on inspiration and expiration.

TREATMENT

Treatment should be conducted along etiological lines. In addition to the usual treatment, I give drams iiss of bicarbonate of soda in a pint of cold water one hour before each meal, or 20 grains in a glass of cool water every two hours. The action of the alkali is three fold; it dissolves the mucus in the stomach, combines with the acid products floating in the blood thereby reducing the blood from an acid to an alkaline state and promotes normal secretion from all mucus surfaces.

In cases where the inflamation extends to the bronchial terminals, commonly called capilliary bronchitis, with the respiration 40 to 90 per minute, the pulse 120 to 160, with a sense of suffocation, face cyanosed, viens of the

forehead and neck prominent and turgied and the little sufferer's body cool and moist, bichromate of potassium is indicated as suggested by Dr. Alexander Hutchins in 1876. The treatment would be for a child under six months, bichromate potassium gr. i to distilled water z. viii; teaspoonful every ten minutes till relieved, then every half to one hour. For a child one-half to one year, gr. i to oz. vi; from one to three years, gr. i to oz. iii; from three to ten years, gr. i to oz. iiss; to be given as above indicated. Other treatment as indicated in connection with above.

The dose of bichromate of potassium for adults should not be over gr. 1-20 for small doses ofte nrepeated give much better results.

August 16, 1906, a colored boy, age six, was brought to my office in a hopeless condition, so a consulting physician stated who saw the case. Tempertature, 104½; pulse above 150, respiration 65 and he in such a stupor that it required about thirty seconds slapping and shaking to arouse him. His lungs seemed filled with fine and coarse rales. Treatment was as follows: Potassium bichromate gr. iii. to distilled water oz. iii. Teaspoonful every thirty minutes. Also gave him tincture aconite m. iv. Tincture belladonnae m. vi. to distilled water oz. ii. Teaspoonful every two hours. Visited him next day and found his condition as follows: Temperature 100½, pulse 100, respiration 32 and he expressed himself as feeling fine. Repeated the treatment and he was well in a few days. It has been my good fortune to witness a number of recoveries of the severest type by the same treatment, except gr. 1-20 was used at short intervals.

In 1905, one summer afternoon, my nose began almost streaming, throat was sore, face aching, bronchi burning, pains in my chest with every sympton growing worse. I recalled a statement made by Prof. Carl Van Noorden that in a large per cent. of cases of catarrhal bronchitis the blood is acid and acting upon that, I took

drams iiss. bicarbonate of soda in a pint of cool water, and within forty minutes every symptom was completely and permanently relieved and twice since similar results have been obtained.

Had these attacks been due to bacteria it would be difficult to explain the action of the soda solution in producing such rapid and complete results.

In conclusion, I wish to state that the purpose of this paper will have been accomplished if other members of this body have become so interested as to join me in a thorough study of this subject along practical lines. I wish to offer the following suggestions:

(1) Give the soda in large quantity of cool water.

(2) Never give over gr. 1-20 potassium bichromate for small doses often repeated are much better than large ones.

(3) Never give it with milk nor within thirty minutes after taking milk as it may cause vomiting.

(4) Give it freely in small doses in every case of capillary bronchitis.

HYDROPHOBIA—ITS PREVALENCE AND PREVENTION

Henry R. Slack, Ph.M., M.D., LaGrange, Ga.

It is not the object of this paper to discuss the brilliant work of Pasteur in discovering the preventive treatment of rabies by animal experimentation nor the etiology and pathology of this disease, for you are all familiar with the literature on this subject. It is too extensive to attempt to condense into a paper of this length. I merely wish to call your atention to the rapid increase of this disease and point out the method for its prevention.

Ten years ago, in Atlanta, I presented a paper to this Association entitled, "Hydrophobia, and the necessity for a Pasteur Institute in Georgia." This paper was fully discussed and the motion to appoint a committee with power to act prevailed. The work of this committee led to the establishment of the Georgia Pasteur Institute in 1900.

It was contended by quite a number of well-informed physicians that there was not enough rabies in Georgia and neighboring states to justify the establishment of a Pasteur Institute, but Dr. Jas. N. Brawner took hold of it with energy and determined to make it a success.

We treated during the first year only 22 cases, the second 43, the third year 85, fourth year 87, fifth year 108, sixth year 155, seventh year 206, eighth year 276, and the ninth year 68. Meantime the legislature, on motion of Dr. L. G. Hardman, appropriated money for the State Board of Health to establish a Pasteur department under the efficient management of Drs. H. F. Harris and Edgar Paullin, which was opened in June 1908, and from then until December 31st, they treated 216, in 1909

they treated 418, and up to April 15th of this year 149 cases. Thus it will be seen that there were 1,830 persons, who have received Pasteur treatment in the past nine years in Georgia, and this despite the fact that nearly all the Southern States have established Pasteur laboratories for the free treatment of their citizens.

Of the 1,830 persons treated only 6 developed the disease after completion of the immunity period, which is less than 1-3 of 1 per cent., while 25 per cent of those who failed to take the treatment died. This shows a saving of over 400 lives by Pasteur treatment in Georgia alone in the last ten years.

When you consider the fact that for four years (from 1900 to 1904 we treated 237 patients and that 44 of them came from west of the Mississippi River, 32 from Alabama, 24 from South Carolina, 118, less than half, from Georgia, and that 489 were treated in Georgia in 1908 and 486 in 1909, after these other states had established Pasteur laboratories, the increase in rabies is appalling. The average for the first four years of this decade was 59.5 while for the last two years it is 487.5, or an increase of over 837% in less than ten years. This certainly is enough to make us pause and think what we must do to prevent the rapid spread of this most awful of all diseases.

We are all more or less familiar with Death when he comes in "Consumption's ghastly form. The earthquake shock and ocean storm," but in hydrophobia he is even more terrible. Now all this anxiety, suffering and death can be prevented by a very simple method.

Muzzle all dogs, and establish a six months quarantine. This is not theory, but a fact that has been demonstrated in England, Denmark, Sweeden and Norway. In the two latter countries there has not been a case of rabies in over fifty years. England's experience with the muzzling law demonstrates its efficiency most clearly. In 1889 there were 312 dogs that died with rabies and 30 human

beings. The muzzling law was passed and rigidly enforced so that in 1892 (three years) only 38 dogs and 6 people died with rabies. The "dog lovers" at this time appealed to the authorities to remove the "cruel muzzle" and they consented, with the result that during the next five years 1,602 dogs and 51 people died of the most agonizing disease known to medicine. Despite this awful lesson these same "humanitarians" came again in 1899 with another petition signed by 50,000 of them, begging to be relieved of the annoying muzzle, but the authorities had learned a lesson and remained obdurate, with the result that in 1905 no case of rabies occurred in England and there has been none since in man or beast.

What has been accomplished in England, Sweeden, Denmark and Norway can be done in the United States, and we must see to it that Georgia takes the lead in this matter and that our next legislature passes a muzzling law.

The dog tax is a failure, a fallacy and a fraud as at present enforced.

I hope the Association will instruct the Legislative Committee to work for this law, and let us stamp out Hydrophobia from the Empire State of the South.

DISCUSSION

Dr. Claude A. Smith, Atlanta: I should like to refer to a law that was introduced into the legislatude two years ago. This was introduced by the legislative committee of our Association and was brought before the notice of this Association at our last meeting, last summer. The law did not reach a hearing because of the urgency of other business. It will probably come up before the next meeting.

ETHYLIC AND EMYLIC ALCOHOL DIFFERENTIATED.

B. W. Hall, M.D., Bowman, Ga.

Amylic alcohol commonly known as fusel oil is a residue of distillation and may be removed in the process of distillation by placing properly layers of charcoal, sand, oyster shells or a few drops of olive oil.

Amylic alcohol is a product of Corn and Potato Whiskey and a hydrated oxide of Amyl. After all the Ethylic alcohol is exhausted in the distillation of corn or potatoes and the distillation be continued a little further a milky liquid will be obtained which upon standing will be covered with a stratum of this peculiar oil. Subject this milky liquid to distillation it will at first boil at a comparatively low temperature and yield water and a little of the oil, but after a time the boiling point will rise to 132 C. (269 F) when the oil will come over pure. By changing the receiver when the oil begins to distill free from water the oil is collected separate.

Amylic alcohol is an oily, colorless liquid of strong offensive odor and acrid burning taste Sp. Gr. 81. It boils at 132 C (269 F..) Slightly soluble in water but combines with alcohol ether and essential oils in all proportions. It dissolves in iodine, sulphur and phosphorus and is a good solvent for fats, resins and camphor. When heated with phosphorus or other oxidizing agents it looses one or more atoms of hydrogen and gains one atom of oxygen and becomes C 5, H 10, 0 2, or amylic acid, which is identical with valerinic acid, the acid formed in Valerian. The free amylic (C. 5, H) has been isolated.

The hydride of amylic C 5 H 11 H is an energetic anaesthetic discovered by Dr. Simpson of Edenburgh.

Amylic alcohol of Crude Oil has been analyzed to contain propylic, butylic and amylic alchohol. Amylic alcohol is used in the fine arts and as a solvent of Cinchona Alkaloids.

Methyl alcohol C H 4,0 or wood alcohol is also used in the arts.

Ethylic alcohol is used in small doses as a cardiac stimulant in debilitating diseases such as diphtheria, typhoid fever, pneumonia, general collapse, Surgical shock, etc. It is also used locally as antiseptic and astringent and for the preservation of anatomic and biologic specimens and a preservative of Tr. and Fl. Ex.

In large doses alcohol is a narcotic poison producing intoxication with muscular incoordination, paralysis, delirium and coma.

Dr. H. S. Williams in McClure's Magazine, shows that the brain, the nerves, the heart and blood vessels, the stomach and intestinal tract, the lymphatic system, the kidneys and the liver may each and all become diseased by the habitual drinking of even small quantities of alcohol. Not only the drinker is subject to these results, but are passed on to his descendants of successive generations.

Alcohol attacks whatever organ or tissue that may be the weakest and most susceptible. Dr. Williams agrees with Scheffer and Schumburg that alcohol does not increase musular power. He suggests that alcohol is not a food in the sense in which fats and carbohydrates are food; it should be defined as an easily oxidizing drug with numerous untoward effects which inevitably appear when certain minimum doses are exceeded.

He classes alcohol with the more or less dangerous stimulants and narcotics such as hashesh, tobacco, etc., rather than with truly sustaining food stuffs. In the place of promoting brain activity alcohol is a disturber

of brain activity. These experiments have been proven by German investigators. Its effect is cumulative so that the drinker of a single bottle of wine daily is in reality never actually sober. Wine causes a loss of at least 10 per cent. in working efficiency.

EFFECTS OF ALCOHOL UPON THE COMMUNITY

Alcohol is a most potent cause of insanity. At least 30 per cent. of all pauperism in civilized communities and mental inefficiency is due to alcoholic indulgence. Fully 25 per cent. of all lunatics in insane asylums are traceable to the abuse of alcohol. 40 per cent. of neglected or abandoned children, 50 per cent. of all convicts, 80 per cent of our jails and work houses. A large per cent. of suicides and sudden deaths are traceable to alcoholic abuses. Venerial diseases with all that they imply, marital infelicity as find record in the divorce court.

The insane, the criminals of various types and the recipients of charity make up the great mass fo abnormal members of the body politic whose unfitness receives official recognition. For every individual that dies prematurely of a disease directly due to alcohol, there are scores of individuals that suffer to a less degree from maladies which are wholly or in part of the same origin but which are not directly fatal.

For every person that suffers complete mental collapse as the result of alcoholism there are scores of patients that are victims of epilepsies, nuresthenias, choreas, all of alcoholic origin. For every criminal that alcohol sends to prison there are scores of persons whose moral delinquencies induced or emphasized by alchohol are not of the indictable order, yet are a source of suffering to their friends and a detriment to humanity.

For every incapable, who, weakened by alcohol, acknowledged defeat in the life battle and openly seeks alms, there are scores of individuals that feel the pres-

sure of want in a greater or less degree because the money that might have supplied necessaries and luxuries has gone to drink, yet they strive to hide their indulgence. But the members of all these vast companies lie without the field of the statistician. They have no share in the estimates that have just been made.

As we view this joyless pageant the vast majority of its members impelled by a power they loathe, yet must obey, a realizing sense comes over us of the tyranny exercised over humanity generation after generation by this arch enemy of progress.

Mr. Jacques Bertillon's French statistics show the effects of alcohol in causing tuberculosis. Mr. Bertillon shows that the frequency of tuberculosis is much greater with some exceptions in the regions where most alcohol is consumed.

The phthisis map may be superimposed on the alcoholism maps. On the other hand phthisis is more frequent among saloon-keepers than with other merchants (579 deaths annually in 100,000 persons as compared with 245). It is probably alcohol also that makes phthisis twice as frequent in Paris among men than among women.

Alcohol is placed second as a predisposing cause of cancer. Alcohol by a powerful affinity for the water of the tissues dehydrates and prematurely hardens them. Not only this but alcohol is a retarder of waste in the body. It diminishes the metamorphosis of tissue. It hinders the separation from the tissues of the body of those effects and waste products which should be eliminated. The used up and waste matters are retained in the body and tissue hardening and degeneration of organs are the results.

The daily use at meals of various bitters, etc., is a thinly disguised tippling under the form of medication and produces dire effects in the course of time, especially when but little bodily exercise is taken.

The per capita consumption of liquor in the 50's was three gallons—including spirits beer and wine—it increased to fifteen gallons in the 80's. The consumption of distilled liquors had about doubled up to that time, scarcely equalling the increase in population. The increase in consumption per capita especially in beer was due largely to the increase in foreign immigration. For the first time in the history of the United States there has been a decrease in the consumption of alcoholic liquors. Nine States are now under prohibition, Maine, Kansas, North Dakota, North Carolina, Georgia, Alabama, Mississippi, Tennessee and Oklahoma.

For the year ending June 30, 1908, according to the United States Internal Revenue office, the production of distilled liquors was 126,989,740 gallons. The year previous ending June 30th, 1907, the production was 168,573, 915 gallons which indicates a decrease in 1908 of over forty-one millions of gallons.

President Leibmann of the National Brewers Association held at Atlantic City, declared that there has been a falling off in the manufacture of beer in the previous 18 months amounting to 5,500,000 bbls.

As a result of the prohibition wave the United States revenue tax on distilled and fermented liquors decreased the year 1909 over five million dollars.

Physicians and Medical Scientists are teachers in the true sense of the word in their respective fields of endeavor. They should search out, study and investigate the alcohol problem and if possible raise the standard of moral and religious tone of the medical profession upon scientific and natural laws.

The dissemination of literature upon the drink and alcohol problem is of paramount importance to the medical profession. The public demands higher medical education upon the drink and alcohol problem.

There is an International Bureau of Europe and a Federation Bureau of the United States organized in

1906 to disseminate literature upon the alcohol problem. Physicians desiring alcohol literature can have their names placed on the mailing list by addressing Dr. F. D. Crothers, Hartford, Conn.

DISCUSSION

Dr. Claude A. Smith, Atlanta: This is a question that had interested me for some time. The question is, "What is whiskey, or what is the alcohol that is prescribed as whiskey?" A great deal of so-called whiskey is sold which is simply rectified spirits flavored with caramel, prune-juice, with sugar added. This question has been thrashed out before the National Bureau of Chemistry at different times. It has been pointed out that this imitation whiskey is nothing more or less than ethyl alcohol, fusel oil and other alcohols which comes over by distillation. This is then stored in casks that have been burned; from this amyl alcohol, or fusel oil is absorbed; an interchange takes place between the cask and its contents until a product is produced which is heralded as a celebrated whiskey; there is really a product caused by the absorption of the tar products into the alcohol itself. Some of the virtues of such a product are questionable. They claim that there are medicinal properties in rectified spirits and more to be desired than the special products, the stored product.

There is another very important point that should be considered. We often ignore the ability of an individual to take care of a certain amount of alcohol. Ethyl alcohol in certain quantities is a poison to human beings, but we must consider how much is a poison and how much is a medicinal dose. It has been shown that an alcoholic person will have the alcohol oxydized in the liver and before it passes into the circulation. But this is not so with one who is not an alcoholic, and it has been shown by the investigators that such a person, one who is not addicted to the use of alcohol, should not have alcohol to

exceed one ounce and a half in twenty-four hours. But, on the other hand, one who is accustomed to the use of alcohol, has an increased capacity, and can take more. This same applies to morphine; by gradually increasing the dose, a person soon becomes able to take considerable quantities. This same is true of alcohol and other narcotics. If we are to prescribe a medical dose of these agents, what I have just stated must be taken into consideration. One must always consider the amount of alcohol which a person is able to oxidize. Therefore, a person who has been a drinker, and regularly so, should be given a larger dose of alcohol than should be given a person who is not accustomed to taking alcohol at all.

THE RELATION THE HOUSE FLY BEARS TO TYPHOID FEVER AND OTHER INFECTIOUS DISEASES

J. W. Palmer, M.D., Ailey, Ga.

I have written on this subject again to show the new development, proofs, and progress made during the last twelve months relative to the dangers of the house fly, and also, in order that the general interest may be increased, the subject continually agitated and kept vividly before our minds. The history of the Association has been that these important subjects die out as soon as they cease to be interesting before the meetings. For instance, the hook worm subject was getting to be non-interesting to the meetings until the million-dollar gift gave it new life.

Scientists of all countries have agreed on one thing, namely, that flies are carriers of disease germs.

Typhoid Fever—Physicians, scientists, and the laity in in all countries have agreed that the house fly carries Typhoid Bacilli to our food and drink. They differ only as to the extent, and this is because we have no scientific means of definitely estimating the number of cases infected by them.

In my paper last year, I stated that the house fly was responsible for 85% of the Typhoid Fever cases in the cities and 95% in the rural districts. Some thought this a very wild and radical statement, but during the last twelve months, the best authorities claim, the flies have been proven to be responsible for 30% more cases than thought last year. It is only a question of a few years until the researches, investigations, and experiments along this line will convince the entire world that the

eradication of the house fly will eliminate Typhoid Fever.

The reason so many are slow to accept the fly theory is that they have failed to devote any time to the subject and give it any serious thought. About one month ago I wrote a letter to practically all the State Boards of Health and some boards in the large cities, asking that they give me their opinion as to the extent the house fly is responsible for Typhoid Fever. I received a reply from all, I think, and they claim the fly to be a great factor in the dissemination of Typhoid Bacilli; some believed they were the principal cause and others thought other causes more important. There was one particularly noticeable and interesting feature in these replies: those who said they had not given the subject much thought, nor made any experiments or investigations, were those who thought flies were not the principal cause, while those who had given the subject thought, with experiments and investigation,claimed that the flies were the principal cause.

Dr. J. N. Hurty, Secretary Indiana State Board of Health, states that with only a few investigations he believes that the greater portion of Typhoid Fever has been carried by flies. Dr. S. J. Crumbine, Secretary Kansas State Board of Health, says he has traced Typhoid epidemics to the fly so often, where water, milk, and other things were not the cause, that it is his positive conviction that the flies are responsible, at the very least, for 50% of the cases in his state. Dr. W. C. Hassler, San Francisco, says he installed 6,000 concrete horse-stable floors and that in so doing destroyed practically the entire breeding places of flies and, as a result, he finds a great reduction in all communicable diseases and that typhoid fever and summer bowel trouble is practically a thing of the past. He further states that typhoid fever had been the disease principally considered by the Board of Health and showed by experiments in his own laboratory that nearly every case of infection was fly-born.

The Board of Health in Chicago claims the fly is re-

sponsible for the largest per cent. of typoid fever cases and has been giving it a close study since Dr. Alice Hamilton, of Chicago, showed, in 1902, that one of their largest epidemics was due to the spread of the bacilli by flies.

There was an epidemic of paratyphoid fever at Weyers Cave, Va., last summer. The epidemiological studies showed that it was not water, milk, shell fish, fresh vegetables, fruits or other foods that carried the infection, therefore it must have been flies.

Dr. G. M. Kober was one of the first to call attention to the danger of house flies in 1895, and he again called attention to it when he read his paper on Conservation of National Resources before the Governors' Convention, held at the White House in 1908. This Association has the honor of having as one of its members, a physician who was the first to show conclusively that the flies were responsible for typhoid fever. This is Dr. R. P. Izlar, of Waycross, who wrote a paper showing that the typhoid epidemic in Tampa, Fla., was due to the flies. This paper was read as part of his presidential address in Jacksonville, Fla., in 1898.

During the past typhoid season, I treated fever in several families and I took particular notice that the families which controlled the flies, as directed, had not new cases to develop, while the families which did not control the flies had any where from one to four cases to develop in each family.

Each year in this country typhoid fever claims fifty thousand victims out of the quarter of a million of subjects who are stricken with it annually and costs the country $50,000,000. It causes in one year more deaths than yellow fever in fifty years, however, the government protects us from yellow fever and leaves us unprotected from typhoid fever. There is more typhoid fever and house flies in the United States than in any other civilized country. Hence, Surgeon-General Wyman has named it the "National Disgrace."

The chronic typhoid bacillus carrier is the source of the cases of unknown infection carried by the fly, and it is these that make the flies so dangerous. These individuals are those who once had typhoid fever and continually and forever liberate these germs equal to the time when they were stricken with fever. These carriers have been proven without a doubt to the satisfaction of everybody. It is claimed that five out of a hundred who have typhoid fever become chronic typhoid bacillus carriers.

From observations, I certainly know that the house flies are practically responsible for the rural typhoid fever and I believe that experiments, close study of the subject, and keen observations will in a short time show that, if not directly, they are indirectly responsible for most of the city typhoid.

Most all cities have their sewage emptying into some body of water. Some cities claim, because their sewage empties into tidal water, it is innocuous, on the grounds that sewage discharges emptying into tidal waters are rendered innocuous by the natural action of moving tidal water.

This has all been proven to be erroneous because the floating excreta and the flies caught on it have been examined and the typhoid and dysentery bacilli found on them; besides typhoid fever and summer bowel diseases are so much more frequent in this section of these cities, and especially when the number of flies is at the greatest. This floating excreta is sought by the flies and after feasting on it they go to the nearest restaurants, homes and hotels to feast on food, milk and water, and infect the same with deadly germs, thereby producing numberless cases of typhoid fever which are attributed to the water. In the cities where the sewage discharges empty into rivers and other streams the swift current forces the suspended matter to the edges of the streams to lodge against the banks and eddy there, which furnishes infec-

tion and breeding places for flies. And from these places the flies go to the various parts of the city to scatter the germs with which they are contaminated. The city says, "Poor sewage," overlooking the fact that the fly is the cause.

In the cities you will find very few who keep the closets fly proof. You find the sinks, the underground or imperfectly drained cess pools, the back yards of homes, all good places to breed flies and to receive infection. The chronic typhoid bacillus carrier comes along and desseminates the typhoid bacilli in the non-fly-proof closets swarming with flies. From these closets the flies go out all over the city, not only infecting the food and drink at places of eating, but infecting other closets, cess pools, sinks and back yards where other flies become contaminated and go out over the city infecting more food and drink, and so it goes ad infinitum, and we have a big city epidemic of typhoid fever due to flies and the city bacteriologist calls it impure water or milk.

The courts have passed upon the question of damages for a sufferer from typhoid fever who could trace his illness to flies feeding upon the filth of sewage. Sometime ago a man living in Germantown, Philadelphia, recovered heavy damages from the city for his illness which he proved was caused by a stream flowing through his yard which had been polluted by sewage from a house tenanted by a typhoid patient. The defense relied upon the proof that the plaintiff had neither drunk nor bathed in the stream, but an entomologist convinced the jury that he had contracted the disease through the medium of flies which had carried the infection from the stream to the food exposed to their visits in his house. About the only way I can see that the flies are not responsible for city typhoid is when the infection is due to leak in pipes and direct infection from contact. All the infected dairies that cause typhoid epidemics are infected through the flies.

Intestinal Summer Bowel Troubles—The house fly is now considered the principal cause of diarrhoeal and intestinal summer bowel trouble. The deaths from these diseases increase and decrease with the general prevalence of flies. For instance, in New York, from November to May there are no flies and no diarrhoeal diseases, but as soon as the flies appear these diseases appear and both increase at the same ratio and in August, when flies are most numerous, these diseases are at their height, after which they decrease with the falling off of the flies. Seven thousand children alone die annually in New York City from diarrhoeal diseases. Baltimore, Philadelphia and Chicago have equally as great per cent., and in the rural districts the same is true as in the city, except, I believe, the per cent. is greater. The fall and rise in flies and these diseases, of course, corresponds also to the temperature curve. It has been the custom for us to attribute this to high temperature, while it has nothing to do with it, except lower the vitality, while the true cause is due to infection from germs carried by flies. The temperature might lower the vitality ever so much, but if they did not come in contact with the germs they could not have the disease, because extreme cold lowers the vitality as much as extreme heat, but as there are no flies in the winter to carry the germs, we scarcely have any diarrhoeal troubles in the winter.

The reason artificially fed babies are more susceptible to bowel trouble is due to the fact that flies swarm on the nipple of their nursing bottle while mothers keep flies from their breasts.

Flies are also responsible for a certain amount of the following diseases: tuberculosis, diphtheria, scarlet fever, small pox, pneumonia, tetanus, plague, Asiatic cholera, filariasis, gonorrhea, and certain skin, wound, and eye infections.

Gentlemen, we can not be to severe in the arraignment of the house fly, because he has cost mankind more health,

strength and happiness than war. War is a terrible thing, awful beyond description, and yet flies have brought more misery than war. Our government spends millions on war. and not one cent on flies. As carriers of contagion their responsibility is unlimited; we are just beginning to realize their danger as disseminators of disease germs. Many an obscure case of infection might be placed to their credit and many a break in the family circle might give silent testimony to the part the flies have played in the drama. When we wonder how baby got bowel trouble; how Johnnie got typhoid; how Jennie got consumption; how Fannie got blood poison; or how Grandma got dysentery, it is all solved by the disseminating flies. The flies are regarded as more dangerous than the tiger or cobra. Worse than that, he is, at least in our climate, much more to be feared than the mosquito and may easily be classed the world over as the most dangerous creature on earth.

Since my last paper on the fly there has been a general increase in interest in the subject and an awakening of the public, not only all over the United States, but in England and in certain English colonies as well. In Glasgow and Liverpool they are carrying on a crusade against the flies. The English government is awakening to this fact and in their parliamentary vote of the present year on disease investigation the house fly was included. The Liverpool School of Tropical Medicine has been continued, and the work of the Merchants' Association in New York, as you doubtless know, was carried through the summer of 1909. One of the most encouraging developments of recent date has been the adoption of the house fly as a subject for campaign by the American Civic Association with their headquarters at Washington, D. C. Mr. Edward Hatch, Jr., is now with them, saying that the Merchants' Association was confined to New York State and that the wide-spread popularity of the anti-fly movement made the organization of a national committee necessary and therefore he went with the

American Civic Association. This new committee will endeavor to enlist the co-operation of every State in the Union and to carry the campaign all over the world. This committee has secured moving pictures illustrating the development of the house fly and its agency in the carriage of disease. These moving pictures will be placed in the hands of every exhibitor of motion pictures, especially five-cent shows, of which there are more than 7,000 in the United States. This committee is in co-operation with other forces, and each State wants to place a special man in each State to go over it with these shows lecturing and demonstrating the dangers of the house flies, and especially should this be done in the schools of the states.

There are 3,000 Women's Clubs in the United States, with membership of 150,000, who are rendering the anti-fly movement their enthusiastic and earnest co-operation. Dr. L. O. Howard, Chief Entomologist of the Bureau of Agriculture, Washington, D.C., writes me that his correspondence within the last two weeks has indicated a tremendous wide-spread interest all over the country in the general subject. Letters are received every day from people who wish to organize campaigns in their respective communities.

Gentlemen, the hook worm fight is well enough and a great blessing. I am not saying anything against that, but where the hook worm is killing its thousands and costing thousands of dollars, the fly is killing its tens of thousands and costing millions of dollars. The country is waking. I understand in a short while there will be held in Washington City a national or international Fly Conference, besides there are in sight several million-dollar gifts to help carry on the anti-fly campaign, besides what will be expected from the National Government and each individual state. With this systematized campaign now planned, the education of the masses and the enacting and enforcing of laws going hand in hand, it is only

a question of time when there will be a complete eradication of the house fly, because to war against disease and wrong living is to war against immortality and crime.

DISCUSSION

Dr. V. H. Bassett, Savannah: The campaign against flies has interested me very much, and all that has been said against them I agree with. Flies are a pest. They are carriers of infection. But I do not believe they are more than a reasonable carrier of infection, and for this reason, based on biological grounds. (?) Flies are supposed to be carriers of the anthrax bacillus; yes, to such an extent that the infection is supposed to be carried largely by this source. We now recognize that the fly is probably only an occasional, or rather a rare, carrier of anthrax, because of evidence of this kind. Take two fields of cattle and in one there is a cow that has died of the disease and with the bacilli running to the ground. Yet cattle alongside this dead animal will be found to be free of the disease unless they have been bitten by flies that have swarmed about the dead animal that has been infected with the disease. However, this is a disease in which flies have been shown to be a carrier, but it has been shown too that the disease has been carried through hosts of a higher order. We find a similar condition of affairs in Rocky Mountain fever in which the tick is the carrier of the bacillus. This has been isolated by Ricketts. There are other diseases in which an insect must be regarded as an important factor in the spreading of disease. The question confronting us now is, "Is typhoid fever due to flies?" Personally, I believe that the fly is only an occasional carrier of typhoid fever and for this reason: The number of typhoid bacilli carried by flies, except under unusual circumstances, is not sufficient to produce the disease directly; the dosage is not sufficient. The number of typhoid bacilli in the stools of a patient ill with the disease, and even in the height

of the disease, is small. They are there mixed with the colon and other groups of bacilli of a highly antagonistic character. It is a clear proposition that flies cannot load themselves up with typhoid bacilli in sufficient number and carry them directly to a human and so convey the disease. There must be some intermediate media, and that is the food. There is no doubt but that the fly is a carrier of the infection, but through some media, like, for instance, milk; they infect the milk supply. There is where the infection occurs. They develop there until the dosage is sufficient to cause the disease when the infected milk is partaken of. I believe that is the only way in which the fly can be proven to be the carrier of typhoid fever in the various epidemics that have occurred in America. The evidence against the fly, however, is circumstantial evidence only.

Dr. E. C Thrash, Atlanta: I wish to congratulate Dr. Palmer upon his interesting and painstaking paper. I am not, however, as enthusiastic as he is; there is no question but that the house fly is a carrier of typhoid fever, but I beg to differ in the proposition that typhoid fever is carried during the summer season because flies exist during that season and not during the winter season. The organisms no doubt grows best with the temperature about that of the body; the organism however will be propagated and cause typhoid during the winter months as well. Dysentery, typhoid fever, diarrhoeas, and other diseases will occur when the colon group of organisms grows rapidly with sufficient food, moisture, and warmth. During the summer season especially they will grow rapidly because of their environment which is more suitable. They will grow, for instance, upon nipples of the nursing bottles, even when there is but little milk in the bottles. There are three factors that are very important in the propogation of typhoid fever and other diseased conditions. First, the resisting power of the individual; secondly, the quantity of the organism producing the dis-

ease that is taken in; thirdly, the virulence of these organisms. I have grave doubts about flies being a carrying factor of the typhoid organism directly from the feces or what not of the patient. But if the organism can be planted in a suitable media where they will grow rapidly, then I believe they will thus indirectly infect an individual. There may be organisms in the corner of a patient's mouth; there may also be proper food there; but unless the growth be rapid and many organisms develop, the disease will not appear. In other words, there must be little or no resistance against the organism in order that the disease may develop. It takes a large quantity of organisms to produce the disease, and I believe that flies, only in exceptional instances, can be carriers of typhoid fever.

Dr. L. G. Hardman, Commerce: Two men have here stated that flies could not carry a sufficient number of typhoid bacilli to produce the disease in man. I should like to ask how many typhoid bacilli are necessary to produce the disease in man?

Dr. E. C. Thrash, Atlanta: It is impossible to answer Dr. Hardman's question, but I must refer to what I have already stated in regard to the three factors which are so important in propagating this disease, as in other disease, viz., the resisting power of the patient, secondly, the quantity of organisms that invade the individual, and, thirdly, the virulence of these organisms. It is, as I say, impossible to state definitely just how many organisms are necessary to be introduced into an individual in order that the disease may develop. Nor can one say how many are necessary to produce other diseases; you can not state definitely just how many tubercle bacilli must be introduced to produce tuberculosis. None of the factors that I have mentioned are constant. Two, three, our, or five bacilli might produce tuberculosis in guinea pigs; but such a number will not under ordinary conditions.

Dr. Claude A. Smith, Atlanta: I did not expect to say any thing this afternoon, but this is a subject that has been of special interest to me. I think that Dr. Palmer is extreme in his views; and, on the other hand, I think that conservatism has gone too far in the opposite direction. We should try to meet on common ground. There is no doubt but that many of our diseases so prevalent during the summer season are due to flies. People will place food where flies can get access, bacteria are deposited, multiply and produce diarrhoeal disorders. Refrigerators kept at a certain temperature, say 60° F., will make such changes in milk that will cause diarrhoea, and people should be very careful in feeding children with milk of this character.

I agree with what has been said in regard to the number of bacteria which will produce the disease; but we must bear in mind that flies deposit the organism on food stuff; they carry the organisms on their feet, but not enough to cause the development of the disease without the organisms multiplying in some media. It should be remembered that they will multiply.

As to the question whether flies develop all typhoid cases, or but a small number of them, one cannot answer, but it is true that they can produce, and do produce, some of the cases. Therefore, it is absolutely necessary and very essential that all should recognize this fact. In Atlanta we hoped for the enactment of a law which looked to destruction of flies. We have worked against the accumulation of refuse to which flies may gain access. We have also tried to have constructed proper surface conduits. We tried to have a certain law placed in operation last summer, but this law has been late in getting in operation; there was considerable opposition to it.

Flies as carriers of disease is concerned in matters of education; education of the people is what we are now working on. We have at present educational movements

along this line and I hope we will have results which will effect the extermination of the fly.

Dr. I. P. Izlar, Waycross: I should like to speak of the carrying qualifications of the fly. In 1898 I was in close connection with about thirty thousand (30,000) men. The common house fly was such a plague that it was almost impossible to eat with comfort except under mosquito netting. Sinks and latrines were very close to the mess-hall and therefore flies necessarily became a great plague. They simply swarmed over both food and drink of the men. Soon we had an epidemic of typhoid fever, and there was no question but that the flies were responsible for this epidemic, whether they carried one typhoid bacillus or one thousand typhoid bacilli to these men. There was no question as to the spread of the infection at this particular time and place. Lime was scattered around the sinks; flies got in and carried the typhoid germs to the food of the men on their feet; therefore, infection occurred from flies that went from the latrines and sinks to the food of the men who became infected. I feel positive that the typhoid bacilli were carried by flies at this time and this place; the flies swarmed the place and were a plague. As a result the flies were responsible for this epidemic of typhoid fever; I am sure of this fact.

Dr. St. J. B. Graham, Ellijay: I have listened to Dr. Palmer's paper with great interest and I do not think that what he has said was made too strong. Today we know that preventative medicine is better than curative medicine. Especially for the laity we should make it strong; for it does not really matter whether flies carry one typhoid bacillus, or a million bacilli. It is enough to know that under proper conditions and in a proper media certain bacilli can develop with such rapidity that they could devour the whole world in seventy-two hours. One typhoid bacillus in a proper media can multiply

to forty-five million (45,000,000) in less than forty-five (45) minutes.

Dr. Claude A. Smith, Atlanta: I should like to ask a question. When we hear such a paper as Dr. Palmer's, a vital paper, and when we go home and encounter a case of typhoid fever, is it our duty to insist that the room in which the patient is should be protected, that the windows should be screened with mosquito netting? This is a question of vital importance.

Dr. J. W. Palmer, closing: I am convinced that flies are responsible for typhoid fever, and I tell my patients this. If my patients will control the flies, if they then get typhoid fever, I am willing to treat them for nothing. In every case where flies have existed, and where they have been properly handled, I can say that I have never had a recurrence of this disease.

There is one point that has not been properly emphasized, and not brought out with emphasis in my paper, a new plan of educating the people, the moving picture shows. These moving pictures are being furnished to the citizens free of charge. In this manner I think that the poor class of people can be reached and educated; this is particularly important in schools. With these moving pictures there should be, of course, lectures.

Dr. V. H. Bassett, Savannah: I also should like to ask a question. In the districts of Georgia, especially where I live, we have artesian wells; is typhoid fever as prevalent among the people who drink of this water as among those who drink water from the ordinary wells?

Dr. J. Palmer, Ailey: I find no difference. Most of my people live in the country; many of them ten miles or more from where I live, and they, of course, drink well water there.

In Indiana they are fighting the fly; the Board of Health is very active. They have issued a card on which

there is stated in large type: "Nail this fly!" What they are issuing is an improvement over our circulars.

What I have given you in my paper is not picked from the journals, but are quotations directly from the people; I have quoted from personal letters.

PURPURA.

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Purpura is a symptom often met with in general practice, and not infrequently the condition is a grave one. The subject has not received the attention from the profession that its importance deserves. Under the name purpura a large number of symptoms, or diseases, which have the common symptom of extravisation of blood under the skin, or mucous membrane, are described. In studying the literature of this subject what most impresses one is the chaotic condition in which this literature is found. Our knowledge of hemorrhagic conditions is, as yet, far from satisfactory. The direct, immediate cause of the hemorrhages we do not know. For instance, we do not as yet know why we should have subcutaneous bleeding in one case of rheumatism, or malaria, and not in another. The exact pathological changes that are present in the blood, or blood vessels, in purpuric conditions need further elucidation.

Purpura is doubtless an eliminative reaction of the system to infection, or some form of toxaemia. This is a modern view. Accepting this view as correct, purpura may be classified, pathologically considered, as follows:

1. **Infectious Purpura.** This is found in typhoid fever, pneumonia, the exanthemata, septicaemia, pyaemia, malaria, rheumatism and other infectious diseases.

2. **Toxic Purpura.** After the administration of certain drugs, such, for instance, as quinine, copaiba, mercury, ergot, the iodides, and chloral hydrate, a purpuric eruption is sometimes seen.

3. **Cachectic Purpura.** This form is seen in cases of cancer, tuberculosis, Bright's disease, Hodgkin's dis-

ease, leucaemia, haemophilia, and the debility of old age.

4. **Neurotic Purpura.** This form is met with in hysteria, after a fight, or profound emotion, and in various other nervous abnormalities.

Clinically considered, purpura is commonly divided into two varieties: **Purpura Simplex** and **Purpura Haemorrhagica.**

In purpura simplex the hemorrhages occur beneath the skin. This form is most commonly met with in children. There is more or less malaise, loss of appetite, some times pain in the joints, and occasionally a diarrhoea.

The prognosis is favorable. The patient usually gets well in a week or ten days.

In purpura haemorrhagica, in addition to the subcutaneous hemorrhages, there is bleeding from the mucous membranes, such as the nose, kidneys, stomach, and other places. This bleeding comes on in the form of an oozing from the mucous membrane. It is most frequently seen during the course of typhoid fever, malaria, the exanthemata, rheumatism, or any serious infection. The purpuric spots vary greatly in size—from the size of a pin head to that of the palm of the hand. Gangrene of the skin has been known to follow extensive ecchymoses. Severe vomiting is common. Pure blood may be puked up. Internal hemorrhages into the brain, and is meninges, or into the lungs, or suprarenal capsule, or from the uterus, may occur. The spleen and liver may be enlarged, and jaundice is not uncommon. The gums may be spongy and bleed, but the teeth are never loosened, as in scurvy.

There is a severe type of purpura haemorrhagica known as **acute** or **fulminating,** in which the prognosis is very grave. In this form 75 per cent. of the patients die. There is usually a chill, with the temparture rising to 103 or 105, followed with marked prostration, purpuric spots rapidly appearing, and with bleeding from

mucous membranes. Restlessness, delirium, and stupor supervene, and the patient succumbs to hemorrhages, or dies in a condition of coma within a few days. Hemorrhages into the brain, suprarenal capsule, or other viscera may prove quickly fatal. Purpura occuring in the aged, or in the cachectic, is an ill omen. Purpura is a finger that points to death when it comes on in a case of chronic renal, hepatic or malignant disease. Ocurring in children, or those in middle life, during the course of an infectious disease, the outlook is not so bad.

In the **treatment** of purpura there are two remedies that I especially recommend, viz: the suprarenal extract, and the chloride of calcium. According to my experience these are by far the best remedies we have for this condition. Aromatic sulphuric acid is probably useful, and turpentine is highly recommended by some writers. Astringents are also recommended by writers, such as alum, lead, tannic and gallic acid. I have little faith in them, except in cases where they may be used locally. Tannic, or gallic acid, or remedies containing them, like hydrastis, might prove beneficial in cases of hemorrhage from the kidneys, or alimentary canal. Ergot is another remedy that may prove valuable.

A word of caution as to the diet. These patients should never be allowed alcohol in any form. All food and drink should be taken in a cool state, and in small quantities. Milk is generally regarded as the most suitable food.

The following case will serve to illustrate a form of purpura often met with, and also the treatment to be employed: Mr. B., aged 30, single, school-teacher, had a moderate case of typhoid fever. Progressed very well up to middle of third week. Temperature ranging from 101 to 103, pulse 100 to 110, some diarrhoea, but easily controlled, tympanitis moderate, some nausea, no delirium. About the 18th day he began to spit up small amounts of blood, but the amount was so small that no special attention was given to it. On the next day this was noticed to be increasing in amount, but still not

sufficient to cause us to think that it required any special treatment. On the third day, however, I was sent for early in the morning, and, on arrival, found that he had vomited up blood in large amounts several times during the night; both nostrils were bleeding slowly, but constantly; he was still spitting out blood, and now every few minutes; he was also passing considerable blood from the kidneys; and purpuric spots about as large as a grain of corn had occurred all over his body. He pulse had run up to 160, and was very weak; temperature, subnormal; still in his right mind, but very much alarmed, and, as I thought, with good cause. Fortunately, the bowels were quiet. The condition of this patient appeared to be desperate. I proceeded as follows: I first gave him a hypodermic of morphine and atropine, for its stimulating and quieting effect, and because I did not want the bowels to move. Then I took a mixture of equal parts of normal salt solution, warm, and adrenalin chloride solution, 1 to 1000, and with a cotton applicator, made a thorough application to the entire mucous membrane of both nasal cavities. Instructed nurse how to do this, and directed it to be repeated every three hours regularly, and oftener if hemorrhages recurred. This stopped the nasal bleeding at once. I want to call attention to the point that I would have given the adrenalin internally, but I knew that in making the application to such an extensive area of mucous membrane that enough of it would be absorbed to produce decided constitutional effects. This proved to be the case, for it was easy to discover a marked effect upon the pulse in a very few minutes. Next I gave him 10 grains of Chloride of Calcium, in the form of an elixir, and directed this to be repeated every three hours. Also gave him strychnine and digitalis, for the heart. That was all the first day. He vomited blood once more. Never had any return of the nasal hemorrhage, but the adrenalin applications were kept up for three or four days, when they were left off, and the remedy was then

given internally. He continued to pass bloody urine for three or four days, but that was the only loss of blood he sustained. He had a little fever, at irregular intervals, for about ten more days, when it finally left him. Strychnine and digitalis were left off after a few days, but the calcium was continued until convalescence was well established. The recovery was uneventful.

PULMONARY STENOSIS WITH TUBERCULOSIS AS A SECONDARY AND TERMINAL COMPLICATION—REPORT OF A CASE.

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Although pulmonary stenosis is the commonest of all congenital cardiac defects, it is of sufficient rarity to warrant careful consideration in each individual case. Furthermore, in cases occuring without the typical cyanosis of the classical congenital heart disease, the diagnosis is of extreme importance on account of the grave prognosis, and the fact that if precautions are taken there is strong likelihood of prolonging life a number of years by guarding the individual against infection, especially that of tuberculosis.

An ideal classification of this condition is difficult. Cases of atresia are to be distinguished from those of stenosis, with which this paper is dealing. The atresia cases die very soon after birth and consitute the typical "blue babies."

Rauchfuss bases his classification of pulmonary stenosis upon the presence or absence of defects in the interventricular septum. He takes this to have an important etiological bearing on the problem of deciding at what stage in embryonic or foetal life the stenosis took place. If there is a defect, the probability is that a developmental error occurred very early in foetal life. If no defect of the septum is present, it is taken to indicate inflammatory processes in a stage of foetal life after the heart has been fully formed.

In regard to the frequency of pulmonary stenosis, the statistics are said to be inexact. In 1898, Vierordt estimated 300 cases. Among 181 anomalies of the heart,

Peacock found 119 of this condition. In 579 cases analyzed by Kussmaul, Rauchfuss, Peacock, Vierordt, Theremin, and Abbott, 26 per cent. are cases of atresia, 74 per cent, stenosis.

Defect of the interventricular wall exists in a large percentage of the cases, especially in stenosis. Thus Rauschfuss finds among 192 cases, 171 in which there is defective interventricular septum, 21 closed. Of the latter number 10 are atresia, 11 stenosis. In the stenosis cases the ductus arteriosus is nearly always closed. Rechtlage of the aorta is very frequently present in association with septal defect, especially in atresia.

From the standpoint of pathological anatomy two general types of stenosis are described. In the first and smaller group of cases the stenosis is practically entirely valvular and suggestive of a pre-natal inflammatory process, the valves being thickened, shortened and even fused. The pulmonary artery is dilated above and thin walled, while below the conus is normal except, perhaps, for its general share in the right ventricle hypertrophy. In the second and larger group of cases, the stenosis is due not so much to valvular deformity, as it is to a rudimentary condition or deformity of some part of the pulmonary tract. Septal defect is almost the rule in this type, while rechtlage of the aorta is common. Such a combination strongly suggests developmental origin.

According to Abbott, two types of conus are described: (1) The whole infundibulum is constricted, the musculature thickened, the pulmonary cusps delicate and healthy above the stenosis, but both they and the artery very small. Frequently, however, the valves are thickened and fused, often bicuspid. The artery is often short. In these cases septal defect is stated to be almost invariably present. (2) In the other group of conus deformity, a cavity resembling a third ventricle is cut off from the sinus of the right ventricle by a definite perforated septum. This form is relative infrequent.

Symptoms—The majority of cases present the classical

symptomatic picture of congenital cyanosis. Indeed, "Morbus Coeruleus" and pulmonary stenosis may almost be considered synonymous terms. However, the clinical symptoms vary with the variety of the deformity and the degree of narrowing. In stenosis with closed septum, cyanosis may be slight or absent the duration of life considerable, and the difficulties of diagnosis increased. In such cases, where the individual has reached or passed the age of puberty, there is a striking lack of general bodily and mental development.

Physical Signs—The physical signs are often indefinite or confusing, but the most suggestive are the following: (1) An increase of cardiac dullness to the right. This is often difficult to demonstrate, though a greater or less degree of hypertrophy of the right ventricle is to be expected in all cases which survive any length of time. (2) Praecordial bulging. (3) Intense cardiac impulse. (4) Thrill, most marked usually over the second and third left interspaces, but frequently fairly diffuse. Thrill, however, is not so frequent a sign as one might suppose, being present in only sixteen out of seventy-five cases. It was absent in my own case. (5) A prolonged, harsh rasping or perhaps blowing systolic murmur, heard over the whole cardia, sometimes over the whole chest front and back. The maximum intensity of the murmur is usually over the pulmonic area, and the sound is frequently transmitted a short distance upward along the pulmonary artery. The maximum sound may, however, be heard at the apex, or over the left nipple, or along the aortic area and extending to the carotids. Occasionally physical signs may be absent as in the case of a child of 5, with large septal defect, rudimentary valves, and the pumonary artery a small cord. The heart sounds were reported clear in this case.

In regard to the course of the disease, the duration of life is relatively high. Peacock records a case surviving at the age of 45 years. The majority, however, die before the age of twenty. A very large number of the

deaths are due to pulmonary tuberculosis, to which disease the unfortunate subjects of this form of heart disease are peculiarly susceptible.

This susceptibility has been attributed by some to the undue anaemia of the lung, by others to the cyanosis which they suppose depresses resistance, and favors destructive tissue metabolism. The individuals live to just the age when tuberculosis is most likely to invade a receptive soil, whether this soil has been prepared by anaemia or cyanosis.

Another mode of death is acute endocarditis developing at the seat of the lesion.

One is apt to dismiss the treatment of a condition such as congenital stenosis with a shrug, but I conceive the prophylactic treatment against infection particularly that of tuberculosis to merit the closest attention. I have no doubt that many cases could have their lives prolonged if they are early diagnosed, kept in the best condition, and guarded carefully from infection.

I have the pleasure of presenting the following case of pulmonary stenosis, which offers some points of unusual interest:

L. F.—Colored. Female. Age, 15 years. Occupation, nurse.

F. H.—Uncle has tuberculosis. Father and mother dead, cause unknown. Lives with infirm grandmother under the worst possible hygienic arrangements.

P. H.—Patient states she has never been strong, and has always had some cough. She passed successfully through attacks of measles and whooping cough. She gives no history however, of any symptoms particularly referable to the heart, and though she was never robust, considered herself fairly well, and was engaged up to the time I saw her as nurse for a white family, doing considerable manual labor. She stated she had never menstruated.

P. I.—The principal complaint is of cough and pain

in the chest. Cough is marked and always has been a symptom, though worse for the past three years. Pain and tenderness is noticeable on the right side of the chest in front. Night-sweats have been present for several months. She has lost some weight, but does not know how much. Expectoration is copious. Haemoptysis has occurred several times the past few months, the last one occurring the day before the patient presented herself. It was this symptom which caused her to seek advice. Appetite fair, digestion good. Sleeps well. Menstruation has never occurred, though the pains of menstruation have been present. Shortness of breath on exertion is fairly well marked. There has been slight oedema of the ankles.

P. E.—Patient is an undersized, moderately emaciated, ill-developed girl. Weight, 78 pounds. Mental development about that of a child of eight years. No cyanosis is evident. The color of the mucous membranes is fairly good. The fingers are not clubbed, but rather thin and tapering. The breasts are rudimentary. Pubic hair almost absent. Lungs: the right lung presents all the evidences of well advanced tuberculosis. It is dull on percussion throughout almost its entire extent, while medium and fine moist rales are everywhere present, and the breath sounds are typically broncho-vesicular. The left lung presents the signs of compensatory emphysema. Heart: on inspection, there is well marked pre-cordial bulging. The apex can be discerned in the fifth interspace in the mamillary line. The pulse is beating at the rate of 120 per minute, and small in volume, not sustained. No thrill is detectible. On account of the surrounding lung dullness, the right border of the heart cannot be accurately outlined by percussion. On auscultation, there is heard over the entire chest in front an extremely harsh, rasping systolic murmur, which is of maximum intensity directly over the pulmonic area, and is loudly heard as high as the first rib above, and the apex of the heart below. It is not loudly heard to the

right of the midline. This murmur which is of peculiar roughness entirely obscures the first sound in the pulmonic area. No other murmurs could be detected.

In view of the history, the association of tuberculosis, and the results of physical examination, I felt justified in making the diagnosis of Pulmonary Stenosis of congenital origin, with secondary far advanced pulmonary tuberculosis.

On March 4th, about two weeks after the first interview, there was detected in the right external jugular vein, a venous pulse synchronous with systole, which was assumed to indicate relative tricuspid insufficiency, which condition was found to be present at autopsy.

The patient pursued the ordinary course of a far-advanced, uncared for case of pulmonary tuberculosis, doing an amount of manual labor surprising in one presenting such evidence of cardiac as well as pulmonary changes. The temperature finally assumed the hectic type, the pulse varied between 120 and 140, the respirations between 30 and 40, the patient remaining up and about most of the time despite advice to the contrary. She finally died on January 2, 1910, about ten months after first coming under observation. The terminal events were not observed clinically.

Autopsy (limited to heart and lungs). For the performance of this autopsy under difficulties, my thanks are due Dr. E. C. Thrash, Professor of Pathology, Atlanta School of Medicine.

Heart—The heart is firmly bound to the pericardium by a large number of dense adhesions, so that it is impossible to remove the heart without tearing its substance. On examination of the right auricle, it appears normal except that in the fossa ovalis along its upper margin there appear three cribriform openings in the inter-auricular septum. The largest of these openings is 2 mm. in diameter, the other two about .5 mm. The edges of the tricuspid valves are greatly thickened along

the insertion of the chordae tendinae, thus preventing perfect coaptation of the edges, on closure of the valves. The entire ostium venosum is so stenosed that the little finger can with difficulty be introduced to the base of the pulmonary valves from the cavity of the right ventricle. The pulmonary orifice is 8 mm.. in diameter. The three leaflets of the valve are greatly thickened, and nodular from their base to near the margins, which furnish a surface smooth enough to permit accurate coaptation of the margins. Each leaflet is about 9 mm. in length along its margin. The leaflets are three in number and not fused. The distance from base to free margin measured in the sinuses of Valsalva is 13 mm. Each of the three leaflets is thrown into folds.

There is no communication between the pulmonary artery and the aorta, both of which occupy their normal relative positions. The pulmonary artery is only 8 mm. in length, dividiing into right and left branches. The vessel is about 1 cm. in diameter and very thin walled.

The mitral valve is competent, though there is some thickening along the marginal cusp.

The aortic valve is normal, each cusp measuring 20 mm. along the free margin, while the distance from base to free margin measured in the sinuses of Valsalva is 10 mm.

The inter-ventricular septum is intact throughout. The walls of the right ventricle are hypertrophied, measuring at the thickest part 13 mm., as compared with 15 for the left ventricular wall. The papillary muscles are much more strongly developed on the right side of the heart.

Lungs—Both lungs present the lesions of tuberculosis. Multiple cavities appear in the right lung, with a very small amount of air containing area, while the left lung presents the pathological picture of acute tuberculous pneumonia, throughout the greater part of its extent.

It will be seen that the heart just described hardly

conforms to either of the two generally recognized types of stenosis most frequently met with. The absence of septal defect and rechtlage of the aorta should probably mean that the changes took place rather late in the development of the heart. On the other hand there is a distinct hypoplasia, or rudimentary condition of the tract extending from the base of the right ventricle where the conus begins, on throughout the pulmonary artery. On the other hand the thickeninng of the valves would seem to indicate inflammatory changes of a chronic nature. Accurate conclusions are therefore to be drawn with difficulty, and I submit the case as it stands.

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A FURTHER REPORT CONCERNING THE USE OF VACCINES IN ACUTE AND CHRONIC INFECTIONS.

Edgar Paullin, B.A., M.D., Atlanta, Ga.

Since the presentation of my paper two years ago before this Association on "The Results of Vaccine Therapy in Acute and Chronic Infections," numbers of articles dealing with various phases of this subject have appeared in the literature; so much so that it is no longer possible for one to even review all of the data relating to this subject. No attempt will then be made in this paper to give the opinions of others or the results of their work. My own series of cases now being large enough to permit the deduction of certain generalizations.

The views previously expressed have undergone little change except that a more extended experience and further observation of the cases have caused me to modify the dosage of many of the vaccines; particularly is this true in the cases of tubercular lymph glands and the use of tuberculin.

Many members of the profession fail to distinguish between a vaccine and a serum, as a result of this confusion in the minds of some regarding the terminology perhaps it will not be amiss if these substances are again defined. "A vaccine is any chemical substance which, when introduced into the organism, causes there an elaboration of protective substances." On the other hand a serum is the substance removed from the blood of another animal, which has been vicariously inoculated, and contains protective substances, the protective sub-

stances in this serum being present because of the fact that the animal has been injected with large doses of bacterial vaccine or toxine. The two things then are in no way similar and there should be no confusion of names.

In the blood of normal individuals there are various protective substances; in the blood of individuals the subjects of chronic infections one or more of these protective substances is diminished and it is diminished in such a manner that to this particular infection the body can offer but little resistance; as a result of this, without outside aid, the tendency with most chronic infections is to steadily get worse. If we bring to bear in these cases the stimulating effect of vaccine, in many, the disease is arrested and in many more eventually cured. By injecting a vaccine then we hope to bring about in the body of an individual a specific and active immunity to his particular infection and the degree of this immunity can be judged by the condition of the focus of infection and the condition of the patient. Consequently for an active immunity to develop in this way the injection must take place over long periods of time.

With these few words of introduction relative to the prinicples upon which the foundation of the treatment rests, the cases are herewith given you. While various and almost all kinds of infections have been treated with the vaccines it will not be possible within the time limit to present, in detail, all of the cases. It would seem best that the infections which are most common and most amenable to proper treatment should first be brought to your attention.

The first group of cases then would be tubercular lymph-adenitis. Of this infection I now have records of sixty-four cases. Of this number forty-eight are regarded as well; nine are improved; and seven of the cases I have been unable to trace, and the result is therefore not known. Eight cases have had relapses, but these have been easily relieved by the administration of a few

doses of tuberculin. Of the nine cases classed as improved, these are now under treatment. As to the location of the diseased glands twenty-four cases had involvement of the cervical glands on one side; in seventeen cases there was involvement of the glands on both sides of neck; in eleven cases the cervical on one side and the aaxillary glands were involved, in five cases there was involvement of the axillary glands on one side alone and in three cases there was involvement of the inguinal glands alone. Of the sixty-four cases eighteen had at the time of their first visit soft glands and sinuses. In six cases the enormously enlarged glands broke down during the treatment, the contents of the gland was aspirated and the puncture immediately sealed in four of the cases. In four cases the diagnosis was uncertain and a request to have one of the glands removed under cocaine anaesthesia caused these patients to stop their visits.

Regarding the treatment of the cases fresh air, sunshine, diet and general hygienic conditions are first insisted upon; as a therapeutic agent in the treatment of this condition I have used the various tuberculins—Kock's Old Tuberculin; Koch's T. R. and Koch's B. E. At the present time contrary to the statement previously made I am convinced that very little depends on which tuberculin is used, as all cases seem to do well with either tuberculin. The most important part of the treatment is the regulation of the dose. Personally, I advocate and employ only very minute doses of tuberculin—doses so small that there is absolutely no discoverable reaction on the part of the patient, as manifested by malaise, headache, flushes, weakness, increased pulse rate or rise of temperature. Should the slightest evidence of a reaction occur the dose for the next injection is one-half of the one causing the reaction. I am an opponent of giving tuberculin in gradually increasing doses, and most especially of that method which increases the dose regardless of condition or reaction on the part of the patient;

in other words, those who have a regular day for a certain size dose and give it whether the patient has a normal temperature, pulse and respiration, or whether the temperature is 102, pulse 100, respiration 25. The indiscriminate dosage of patients with this remedy in this manner is the thing which will again bring the use of tuberculin into disfavor and will rob us of a valuable remedy in treating certain forms of tuberculosis. Each patient who receives the tuberculin treatment is a law unto himself, and I contend that it is unwise, and unscientific to inject these patients by rule. It cannot be done and obtain uniform good results. I am well aware of the fact that some few may give, regardless of the patient, gradually increasing doses of tuberculin, at the same time I am convinced that this number is steadily and gradually decreasing.

Of these cases with the exception of twelve, none have received more than 1-30 of a mg. of Koch's Old Tuberculin, and none a greater does than 1-1000 mg. of Koch's B. E. Of the twelve cases excepted in this series the highest doses were 1-10 mg. of Koch's Old Tuberculin and 1-500 mg. of Koch's B. E. The method of treatment which I now employ is about as follows:

A patient is given a dose of tuberculin 1-500 mg. Koch's Old or 1-10,000 mg. of B. E., if all goes well the dose is repeated within two days; if there has been no evidence of a reaction the dose is again repeated in three days, then again in four days; then injections are given once weekly. If the patient manifests no evidence of local or systemic reaction the does is generally carried up to 1-30 mg. of Koch's Old or 1-1000 of B. E. When we stop to think of the changes which take place in the body after an injection of tuberculin, viz.: the anchoring of the antigen by the antibodies and the consequent using up of all of the available antibodies, then by the presence of free antigen we hope to stimulate the cells to throw out or to manufacture new antibodies to neutralize the antigen which is constantly being brought into the circu-

lation by the presence of the diseased focus. We are forced to believe that a small dose is the desirable dose. We must also bear in mind that at its best the normal animal is able but feebly to respond to these inoculations by the formation of antibodies; consequently we must see that the injection of a large dose of this remedy can but so overcome the body that it is in every way incapable of responding to these demands and as a result the disease advances. A physician to give tuberculin intelligently should know what tuberculin is; what he hopes to accompish by its use; what is the clinical evidence that he is or is not obtaining; the desired results and why he is or is not; he should study the dose and note the immediate effect on the patient; he should also realize and know that this remedy is a powerful poison and is more capable of doing harm than it is of doing good.

The next group of cases is the acute infections caused by the pyogenic organisms; of this class there are nineteen cases of multiple furuncles, twelve cases of carbuncles and fifteen cases of erysipelas. In the cases with furuncles and carbuncles the staphylococus aureus was the causative agent in twenty-two cases; the staphylococus citreus in two cases; the staphylococus albus in three cases and the streptococus and staphylococus aureus in four cases. The number of furuncles on each patient varied from one to thirty-two. Vaccines were made from the organism causing each particular infection and administered in doses of about five or seven million for the first, ten to fifteen million for the second and thirty to forty million for the third injection. The doses were given about two days apart for the first three doses, then about every fourth day until the patient is well. As a rule, five or six doses are quite sufficient to relieve the condition. The cases do exceedingly well, particularly is this true with those afflicted with carbuncles. The relief afforded from the pain is marvelous.

The cases of erysipelas have been the most interesting and have responded exceedingly satisfactory to the

streptococus vaccine. Knowing that erysipelas has a tendency to do curious things, the results in the first few cases were looked upon as possible coincidences; but when the temperature falls to normal, the eruption ceases to progess and the patient is comfortable after the administration of two doses of the vaccine, one is justified in believing that the vaccine does a great deal of good. Generally I give five to seven million organisms as the first dose, within two days a dose of fifteen to twenty million is given, and on the fifth day of treatment I give thirty or forty million, which is usually sufficient to relieve entirely the patient. As a demonstration of the efficiency of the vaccines I know of no acute disease which ilustrates so well the benficial results as does erysipelas.

The next and last infection to which I beg to direct your attention is chronic pustular acne—a condition which at best is difficult to cure. Of these cases I have records of thirty-one, of which number twenty-one are well, eight are improved and two are unimproved. The course of treatment in this condition is rather long, and at times very perplexing, so that it requires patience on the part of both physician and patient to accomplish the desired result. In these cases the offending organism was the staphylococus aureus in twenty cases; the staphylococcus albus in eight cases and the staphylococcus citreus in three cases.

The size dose of the vaccine which is administered in these cases certainly plays a most important part in the cure and requires more care and accuracy than treating the ordinary acute infections. As a general procedure the first dose of the organism administered is five million of the dead bacteria; the next dose given on the third day of ten million; on the seventh day fifteen million, and this is repeated on the fourteenth day, and thereafter every six or seven days depending on the progress of the patient.

In all of these infections, whether acute or chronic,

a great deal can be accomplished by the judicious use of remedies which will accelerate the flow of blood through the affected parts, such means as massage, the application of heat in the form of hot salt or sand in bags, or as hot poultices, and the passive hyperaemia of Bier. By the use of these agents we hope to bring to the infected area or areas blood and lymph which is rich in anti-bactericidal substances, and by their action destroy the invading organism or organisms.

In conclusion, I wish to again thank many members of the profession for the opportunity of observing their cases—the list is too long to make individual mention of all of them.

FLAT FOOT

Henry Middleton Michel, M.D., Augusta, Ga.

The advantages that accrue to man from the power of walking in the erect posture are to some extent limited by certain deformities that this position is likely to produce. Savarin, long ago remarked rather irreverently, that the design of the human foot was a notable failure among the works of creation. A common example of the weakness of the foot is to be found in the condition usually called flat foot. That a study of this painful disability is of moment to the general practitioner is suggested by the fact that flat foot is so frequently mistaken for rheumatism. The bones of the foot arrange themselves into two arches; an antero-posterior or longitudinal and a transverse or lateral arch. The longitudinal arch is made up of the oscalcis behind and the scaphoid and the three cuneiform bones with the heads of the metatarsals in front. At the apex of their structure and acting as a keystone, is placed the astragalus. This arch is held up partly by the muscles of the foot and the leg but more especially by the ligaments stretched between the bones. Particularly by the short plantar ligament which completes the internal left by the approximation of the anterior surface of the oscalcis with the posterior surface of the scaphoid. The bolstering effort of this ligament is further aided by the long planter ligament running from the oscalcis to the heads of the metatarsals. The combined effect of all these factors is to lift up the inner border of the foot and to draw toward each other the two ends of the arch. The transverse arch is much less securely supported, having bony abutments on its outer side only. The curved end of the transverse arch is held

up very largely by the tendon of the peroneus longus muscle.

Bearing in mind this arrangement of the arches of the foot it is easy for us to see that if there should arrive a time when the weight to be borne is greater than the power of the arch to bear it that there will be a stretch on the ligaments and a consequent spreading of the arches. The inner border of the foot being the less supported part suffers most in this spreading out process; thus under the pressure of the body weight the astragalus is thrust inward and forward as well as downward. The rolling inward of the astragalus which causes a convexity at the center of the inner line of the foot, is in some cases the most noticeable part of the deformity. Together with this bulging of the inner surface of the foot is to be seen a flattening of the instep and a more or less marked abduction of the front of the foot.

In cases of flat foot when the bare heels are observed from behind the tendo-achilles is seen to make a sharp outward deflection from the normal perpendicular. By far the commonest cause of the purely static type of flat foot is the weakened condition of the muscles and ligaments of the foot brought about by wearing improper shoes. Feet thus weakened frequently are found to be unable to stand the strain of rapidly added flesh or the sudden change from a sedentary life to one which necessitates long hours of standing.

The symptoms of flat foot vary greatly in individual cases. Quite often one observes cases in which there is a considerable degree of deformity, but which give rise to but little pain or other disability. On the other hand individuals are seen in whom the disability seems to be out of all proportion to the amount of structural changes. The patient usually seeks aid because of pain. This pain is felt in the neighborhood of the internal malleolus or over the scaphoid and is frequently referred to the calf of the leg. Because of this more or less persistent pain in standing or walking the diagnosis of rheumatism is

often made without a thorough examination of the components of the foot. Such an examination would disclose that there is a limitation of the normal amount of adduction in the front part of the foot and that dorsal flexion and extension of the foot is somewhat limited at the ankle joint. There is a stiffness in the foot giving rise to a clumsiness and awardkness of gait, which is especially complained of in the morning on arising and after being seated for some time. An examination of the shoe usually shows that the inner side of the sole and the heel have been run-down more than the outer side. An impression of the sole of the foot shows an increased weight bearing area, a flattening out of the surface. An easy method of gaining such an impression is by painting the sole of the foot with a solution of perchloride of iron in glycerine. Place the patient's foot on a piece of paper and cause him to put the full weight down upon it. Immerse the resulting impression in a solution of tannic acid and the tracing becomes black and forms a very convenient means of following the progress of the treatment. The treatment of static flat foot aims both to develop the structures that normally preserve both arches of the feet, and at the same time to render support to the arches by some form of brace.

No treatment can be considered complete that does not attempt to accomplish both of these objects. The exercises recommended by McKenzie will be found useful.

Exercise 1. Patient sitting, leg extended and supported just above the ankle with the left hand. Place the right hand on the sole of the foot. With the thumb pointing toward the toes grasp the foot firmly, circumduct the foot slowly in the following order. (1) Extension. (2) Inversion. (3) Flexion. (4) Eversion.

This should be done with as much force as can be used without causing pain, and repeated about thirty times. The patient should then be asked to perform the same movement without the assistance of the surgeon.

Exercise 2. The patient standing, with toes in and heels out and about twelve inches apart, rise on the toes and press out slowly. Repeat fifty times.

Exercise 3. Patient standing, with feet parallel and six inches apart, raise the inner border of the foot throwing the weight on the outer border. Repeat this fifty times. This transfers the weight from the ligamentous support to the bony ridge of the outer edge of the foot and should be followed by

Exercise 4. The patient standing, feet parallel, weight resting on the outer side of the foot. Move forward and backward fifty steps keeping the feet parallel. This exercise is also valuable in throwing the weight of the body on the solid part of the lateral arch, and is a position that is frequently instictively taken by patients to relieve the intolerable pain caused by the over stretching of the ligaments.

Exercise 5. Raise the heel one inch from the ground and walk without putting the heel down at all as if the heel were painful. This exercise can be practiced indefinitely, the patient walking for a hundred yards without letting down his right heel, and then the next hundred yards without letting down the left heel, or raising the heels when crossing the street or other plans which readily suggest themselves. A little practice will enable him to walk in this way without limping or otherwise attracting attention. These exercises should be carefully performed twice daily for many months. In the mildest cases such exercises are sometimes sufficient to effect a cure, but in those cases of long standing of a severer type in which there is a rigidity of the foot it is necessary to overcome this rigidity by a forcible over correction of the foot under general anaesthesia. The foot is then so forcibly manipulated as to break up all adhesions due to the structural changes. After the foot has been so manipulated as to have gained the full range of normal motion it is then put up in a carefully applied plaster-of-

paris bandage in an extremely over-corrected position, that of Talipes Varus. The patient is encouraged to walk in this apparatus, the assumption being that weight bearing will further over-correct the deformity.

After the plaster bandage has been worn for three or four weeks, it is then removed from the foot and a cast of the foot is taken over which a flat foot brace is fitted. The brace which I have found most generally useful is that devised by Whitman, of New York. This brace furnishes an unyielding support to the parts of the foot needing support but allows freedom of motion to the front of the foot. It covers and protects the astragalo-scaphoid junction rising well above the scaphoid. The external arm covers the calcaneo cuboid junction and the outer aspect of the foot to a height sufficient to hold the foot securely. The sole part provides a firm, comfortable support. The brace is made out of eighteen or twenty gauge steel. It may be nickel-plated which makes a smooth finish or galvanized which is rather more durable. This brace requires no attachment to the shoe and therefore, may be changed from one shoe to another. Not only does it hold the foot laterally and from beneath but as Whitman says, "there is a slight element of suggestiveness in the leverage exerted which is a distinctive feature of this brace as contrasted with the simple sole plates found in the shoe shops.

An easy method of making a plaster-of-paris cast on which the brace is to be fitted is as follows:

Seat the patient in a chair; in front of him place a stool somewhat lower in height, on which he is to place his foot. On this stool place a cushion over which newspapers are placed to protect it. Putting about one quart of cold water in a basin, sprinkle plaster-of-paris on the surface until it does not readily sink to the bottom and stirring it constantly allow it to become of the consistency of very thin ice cream, Then pour it upon the newspaper. Flexing the patient's knee, the outer side

of the foot is allowed to sink upon a piece of cheesecloth which covers the plaster and the borders of the newspapers are raised and the plaster is pressed against the foot until it is more than half covered. The foot is held at right-angle with the leg, corresponding to its usual position in the shoe, that is, slightly plantear flexed, and the sole should be in the plane perpendicular to the seat of the chair. As soon as the plaster is hard, another piece of cheesecloth is placed over the foot, and the remainder of the foot is covered with plaster. The two halves are removed when sufficiently hard to be taken up and after being smeared with vaseline are bandaged together. The advantage of using the cheesecloth next to the foot is that the foot does not have to be greased.

After the cast is hardened the shell having been well greased with vaceline is filled with plaster and after the outside shell is removed one has a reproduction of the foot, which when properly made will stand upright without inclination to one side or the other.

In all cases it is best to deepen the inner and outer segments of the arch in the model in order that the arch of the brace may be slightly exaggerated, especially at the heel and so that the depression of the anterior extremity of the oscalcis may be prevented. If the outer border of the cast is flattened by pressure a little plaster should be added to approximate the normal contour.

USE AND ABUSE OF SPECIFIC TREATMENT IN TUBERCULOSIS

Louis C. Roughlin, M.D., Atlanta, Ga.

There is, at present no disease which holds the attention of the world more than tuberculosis, and the only thing next to it in importance, both to the laity and profession, is tuberculin. Its popularity in our own state may be judged by the fact that in spite of the thousands and thousands of doses sent out free by our State Board of Health, the sale of tuberculin has increased over four hundred per cent. in the last fourteen months, according to information given me by an Eastern representative of a commercial laboratory. Since presenting my article on this subject before the Fifth Congressional Medical District in 1898, I have had over a thousand requests for copies of the reprint, and am in almost daily receipt of letters from the laity and physicians, desiring information on this subject. There is, perhaps, no single therapeutic agent, which had in such a short time, such a varied career. On its introduction in 1890, it was lauded as a postive specific, shortly to be followed by a reaction, and we had an era of "Tuberculin terror." In the last two or three years, began the era of "Tuberculin renaisance," and unless checked we are rapidly approaching an era of "Tuberculin delirium."

WHAT TUBERCULIN IS

Every physician should be impressed with the fact that tuberculin is not a **serum**. It is not an anti-toxin; it is the very opposite to it. It does not decrease the toxins in the system. It increases it. That no matter what form or preparation used, (I have fully described

the methods of making the different preparations in my former paper. They are practically identical in their physiological effects, and represent the toxins of the Tubercle Bacillus. Tuberculin immunization represents an active, not a passive process. It is a poison, pure and simple, and like all other poisons used in therapeutics, is of value only when administered properly, and under special care and attention; otherwise, it is only productive of harm and disaster. Under ordinary conditions its greatest value lies in its use for diagnostic purpose, for its therapeutic use, especial conditions and environments are required.

DIAGNOSTIC USE OF TUBERCULIN

For diagnostic purposes the Cutaneous, Inunction, Intradermic, Conjunctival and Subcutaneous method may be used. Their value depends upon the sensitiveness of the infected tissues to tuberculin, and manifests itself by an inflammatory response when brought in contact with skin and mucous membrane. Any of the above methods may be used with safety, except the Subcutaneous test, which should be used only, as a last resort, and the same care and caution is necessary as when used for therapeutic purposes. The delicacy of the reaction becomes lessened as the disease undergoes the process of healing. It is greater and more delicate in the very recent as well as the more extensive form of the disease, except in the rapidly progressive and very grave form. The reaction may occur in healthy persons, and when persisted in use may arouse a sensitiveness from a latent or from a former healed infection, therefore its value is equally great in excluding tuberculosis by its absence, and in postive cases it can only be considered as a confirmatory evidence to previous physical findings by other means.

THERAPEUTIC USE OF TUBERCULIN

For therapeutic purposes there are many conditions which must be carefully considered. They are, first, the patient himself—his physical condition, his environments, and supervision while under treatment. Next must be considered the choice of the preparation—the dosage—its indications and counter-indications—reaction, if any occur—the kind and its severity, and the interval between dosage, and unless a physician is prepared to be able, at all times, to be reliably informed by a competent scientific observer on all these absolutely necessary conditions, he is not prepared to administer tuberculin.

Before an injection of tuberculin is given, a most thorough physical examination of the patient should be made, the condition of his stomach, bowels, liver, and kidneys, as well as the condition of his nervous system, must be considered, microscopical and chemical examinations of his sputa, urine, and when necessary, of stomach contents, feces and blood should be made, the temperature, pulse and respiration should be taken by a competent observer, at least four times a day, for several days prior to the injection of Tuberculin. Any abnormal conditions found, as far as possible should be corrected. The choice of tuberculin lies chiefly between the soultions and emulsions of vaccine, opinions vary as to the formation of any rule on this subject. The method used at Pine Ridge Sanitarium has proven excellent in our experience with same. The Pine Ridge method is as follows:

PINE RIDGE METHOD OF CHOICE OF TUBERCULIN

The patient's arm and forearm is first thoroughly scrubbed and cleaned with soap and water, dried and the parts washed off with ether, and by means of a special scarifier the patient is inoculated with the different forms of tuberculin; one inoculation is made with the normal saline solution for a control; the choice of tuberculin to

be used is then made by means of the different cutaneous reactions. The predominant type manifests itself by the greater local reaction, the concommitant by the least. Springler and Detri have shown, and their views have been borne out by observations at Pine Ridge, that the injections of the concommitant type causes, in many instances, the disappearance of toxaemia, while the predominant filtrate causes an accentuation of the symptoms, and that the greater number of patients can be more easily immunized with the concommitant toxin, but show great tolerance to the predominant filtrate. These tests are repeated from time to time, and necessary changes made according to indications, by these means we have, in a large measure, been able to determine the choice of tuberculin in a given case, and prevented using a non-suitable and intolerable toxin.

SELECTION OF DOSAGE AND INTERVAL

The crucial point in tuberculin treatment is the selection of dosage and interval between dosage. There is not, and we cannot make any scheme of dosage, which can be blindly followed. Individualiation plays the most important part, the proper rate of increase varies for each individual, and even varies for the same patient at different times during the treatment. We have no rule to follow as to dose, rate of increase, or maximum dose desired to be reached. We must be guided by the degree of toxin tolerance of each patient as manifested by the symptoms, progress of the disease, and general conditions; each patient is a law unto himself. The general symptoms are by far the most important, as they give the first sign of tolerance. Pronuonced symptoms do harm, and when the patient is under constant observation, by day and night, by especially trained nurses, they can be avoided, and should not occur.

CONCLUSION

In conclusion, I wish to reiterate my statement made years ago: That as long as we have no better or safer substitute, we possess in tuberculin a remedy which administered under all proper precautions, is of the greatest value, and when the patient cannot be placed under the most careful supervision during treatment—supervision which is only possible in hospitals and sanitoriums especially constructed for that purpose and surrounded by nurses especially trained in caring for this disease, the patient is better off without it. Tuberculin then becomes like a stick of dynamite in the hands of the careless and ignorant, innocent-looking, but ready to shatter to destruction with all it comes in contact. In the hands of competent men, carefully employed under suitable and proper conditions, the use of tuberculin is of the greatest value in the treatment of tuberculosis. Under any other conditions it becomes an agent of destruction—for it is abused.

SOME THOUGHTS ON THE PREVENTION OF TUBERCULOSIS

George Brown, M.D., Atlanta, Ga.

The abstract of my paper as published in the Bulletin of the Medical Association is a little misleading. It is not my intention to write a technical paper or go into the minutiae of the incipiency of Tuberculosis. I prefer to use a broader aspect of this disease, with special reference to the prevention thereof either by medical or legal means, and in order to intelligenly arrive at a conclusion I would divide these treatments into two parts: The first, I would diagnose as the medical aspect of the prevention of Tuberculosis. The second I would diagnose as the legal aspect of Tuberculosis. Now, as to the medical part, history advances in this disease, the abuse, which must be taken into consideration in order to arrive at a conclusion. I will not take up your time or tax your patience by going over this, as I have nothing startling to offer in this direction. One thing, however, I would make plain: That either the errors of physicians or the neglect of the physicians are responsible for the loss of innumerable lives. At a meeting of the Board to organize the State Sanitarium in Atlanta last year Dr. Jefferson Davis, of Toccoa, Ga., one of the trustees of that institution, made use of the following words. It was suggested that an educational feature be added to the work of this institution. Dr. Davis said, "We do not need to educate the people concerning this disease. What we need to do is to educate the doctors." No truer sayever fell from the lips of man. The patient comes to the doctor. One of this class as soon as he diagnoses the case, if the patient is able to pay for the attention of a specialist in this line, immediately tells the patient his

condition, and sends him to one. The other one holds the patient as long as he possibly can, doses him on Cod Liver Oil, quinine and various other remedies, telling the patient that he has a little "Lung Trouble" or a little "Bronchial Trouble." The patient patiently wends his way towards the cemetery at about the usual rate of speed, and towards the close of the drama the doctor gets very anxious concerning him, and he generally suggests that the patient go West; sometimes he sends him to a sanitarium nearer home. When the time comes for the patient to leave the doctor generally informs the family, "that he will be all right now, and that he will come home as good as new." This is supposed to square the doctor with the family and the patient's friends, and the patient comes back home in the "Baggage Car Ahead." The other class of doctors have a heart to heart talk with their patients, and with the friends of the family, telling them the exact condition of the patient, and suggest that he be sent to a private sanitarium for treatment. He does not fail to tell them that statistics show that from 2% to 4% of these people get well at home, and that from 62% to 82% get well in privately equipped sanitariums. If the patient is able to pay the charges he is generally sent away in order to give him a chance for recovery, and if he is not able to pay he has to take his turn and wait for death. Now from a plain business standpoint I ask any man to pick out a town in the State of Georgia having two physicians and watch their career for ten years. Eventually at the end of ten years one of these physicians has the confidence, and respect of the entire community, and the other one who merely diagnosed these cases as a "little lung trouble" or a little "bronchial trouble" has either sold out and moved away, or returned again to the farm or else running a sawmill. The method of fooling these people about the disease worked all right fifteen years ago, but there is an old adage, "that the times change, and that the people change with them," and the doctor who is not able to

change with the educational advancement of this disease is just as sure to lose his patients as the sun shines. Carrying the idea a little further, I wish to call attention to another element. It is the duty of every good physician to prevent this disease, and no man has gone further into the matter than an illustrous Georgian, Mr. Nathan Straus, born at Talbotton, Ga., and the man who is responsible for all the valuable information pertaining to this milk business. It is useless to eulogize his work in regard to the pasteurization of milk notwithstanding the animosity and abuse which has been hurled against this man by the milk trust he is today greater than any doctor that ever breathed on the American continent, and his name will be emblazoned in the Hall of Fame when his traducers shall have been forgotten, resting on the lap of Mother Earth unwept, unknown and unsung. Mr. Strauss has established at Lakewood, N. J., a Preventorium, in which Tubercular children, or those which show a tendency towards Tuberculosis, or those who live in Tubercular homes, can be taken to and given three or four months' treatment and sent back home in perfect health. Soon after he began this magnificient charity what was the result? A great howl went up, and an injunction was issued by the great trust restraining him from opening this institution. The true history of this proceeding has never been known, as the press were never able to get it, but I will give it to you free just as the condition exists:

Nathan Strauss and Max Nathan jointly owned the Lakewood Hotel property. The Cleveland Cottage, situated in a remote corner of the property was Mr. Strauss' personal property, but as transactions between Strauss and Nathan were never reduced to writing, the Cleveland Cottage property was never partitioned from the hotel property by the passing of a deed. The Preventorium was established in the Cleveland Cottage by Mr. Strauss.

George J. Gould, having brought up his children, wants to sell his great Lakewood estate, Georgian Court, and he feared that the establishment of the Preventorium would

discount the value of his property. Max Nathan, now eighty years old, is head of the Pump Trust that supplies hundreds of thousands of dollars worth of supplies to the Gould railroads every year. This leverage proved stronger with Max Nathan than the obligations of friendship, and of his verbal arrangement with Strauss about the Cleveland Cottage. Samuel Utermyer is counsel for the Pump Trust. He and George Gould induced Mr. Nathan to dispute Mr. Straus's exclusive ownership of the Cleveland Cottage, and stirred up the Lakewood people to fight the institution. Hence the bitter war upon the Preventorium —the Pump Trust fighting the children at the dictation of the Gould Railroad Trust.

The work of Mr. Straus has opened up a new line which is doing great good, and it shows that children who suffer from Tuberculosis or show any symptoms indicative of Tuberculosis can be restored to perfect health and be made healthy citizens of the community.

Now in regard to the legal status of the Tubercular patient. These people are unable to work, and the majority of them have no means. What disposition is to be made of them? It is a question which has been satisfactorily solved in Europe, and today in Germany, England and France no one of these cases need go without proper medical attention. The time is fast approaching in the United States when we will be up with the times. One of the greatest tasks of the legislators is in making changes which is absolutely necessary to meet conditions existing in a new country. Is it not time to urge our legal departments that we are not only one of the greatest people in the world, but that we are one of the most progressive. All of this is true, but in many resepcts, I might say, in nearly all respects as far as hygiene and sanitation are concerned, we are fifty years behind the oldest countries of Europe. New settlers in a new country go through about the same cycle of improvements. They first live in log cabins, then in farm houses, then in brick, and finally

in stone. As far as medical legislation is concerned, we are still in the log cabin stage. At the magnificent Board of Health of this state do any of you realize that these people are doing their work on an appropriation of less than $20,000 per year? Do you realize that the State of Georgia appropriates two and a half millions of dollars per year for education; another million for pensions, and expends for the health of its citizens the magnificent sum of $20,000 alone? Is it any wonder that to my mind the average member of the Legislature is a jackass? I wish to state emphatically that this is not my true opinion of the average legislator; my true opinion is not fit to publish, and I fear it would not be accepted in the society columns of any of our great dailies. I have no apology or explanation to make for expressing this opinion. Any so-called legislator that is too ignorant or too careless to the sufferings of humanity not to unlatch the purse-strings of this great State to help the poor indigent sufferer has not my respect. I consider him an ought with the ring rubbed out. Take the National Government. There was expended in the year 1908-9 for past wars, and for preparation for war, four hundred and twenty-three millions of dollars. There was left for other business of the Government one hundred and eighty-one million of dollars, 70% for one and 30% for the other of the income of the United States. The cost of a few battleships wisely spent in the fight against Tuberculosis in a few years would obliterate this disease practically from the masses of the Republic. The secretary of the Peace Society of the State of New York says: "Our defenses, adequate in 1898, are doubly equipped now. Why not let well enough alone, and buy something besides guns? No one can oppose adequate National Defenses. We do oppose actively the following of the prevailing National ambition." Mr. J. A. Tawney, chairman of the committee on appropriations, states that expenditures for this purpose for the coming fiscal year, 1909-10 will be greater than ever for this year. They have been increased rapidly and enormously year

by year, and no one can predict beyond what increase this may not go. The question arises what are we going to do about it? We must awaken the people to the fact that this country is on the verge of delirium concerning expenditures for war alone. To this one fact, every doctor, every humanitarian and every voter should obligate himself to aid in every way movements which tend to reduce this great amount of expense, and in a more sane way, aid in the upbuilding and betterment of mankind.

FURTHER EXPERIENCE WITH VACCINE IN TUBERCULOSIS

E. C. Thrash, M.D., Atlanta, Ga.

There are a few thoughts I wish to present as a foreword to this essay that have been prompted from my handling tuberculosis in a general way. No disease is attracting so much attention at present from the world as tuberculosis, and justly so, but there are many grave errors being made by well-meaning, but untrained, phthisiphobic people, and it is the duty of the medical profession to attempt to correct them. The warfare against this disease is being fiercely waged, but it is accompanied with too much glamour, sounding of trumpets, ignorant exploitations, and frightening, panic-producing vaporings from those utterly devoid of a proper knowledge of the subject. The medical profession is the proper source from which this work should come, and it should be done quietly, with an eye always avoiding panic-stricken conditions as they now exist. We have reached a point already where we have as difficult a problem on hand in curing the public of phthisiphobia as of ridding it of tuberculosis. What it needs to be taught is truth, and we who are giving our energies, our studies, and even our lives to this work feel keenly our incapacity in properly representing it. This being so, then what should we expect but to produce a wild delirium of fright and consternation, putting the people to running to they know not whither and from they know not what, when we are so foolhardy as to call in the clergy, the club woman, teachers, philanthropists, etc., entirely without proper technical and medical train-

ing along this line to help to alleviate the world from this scourge.

In my tuberculosis work for the past few years, I have attempted to make painstaking observations as to the value of vaccines, both as diagnostic and therapeutic agents. It shall be the object of this paper, not to enter into the minute details of their administration, but to give the general conclusions I have reached from observation in their use. In summarizing these, I wish to state emphatically that he who depends wholly upon tuberculin either for diagnosis or treatment, will be sorely disappointed, but on the other hand taken with everything else that is available in the proper handling of tuberculosis, I consider no agent so valuable as these, for, frequently after exhausing every other means to make a diagnosis, being still in doubt, tuberculin will often turn the balance and prove an invaluable aid in clearing the doubt. No one who is not a good clinician and diagnostician will get satisfactory results from vaccine. The same good judgment is needed in interpreting the results from the use of these, as is needed in the interpretation of one's clinical findings. Four of these tests are worthy of mentioning,—the sub-cuticular, Von Pirquet's cuticular, Moro's ointment, and the Systemic. They are mentioned in the order of their delicacy, but not in that of their administration, as the sub-cuticular will sometimes give a systemic reaction and interfere with the local reaction, should one wish to admisinter the others later. Von Pirquet's and Moro's can be used together, and if these do not clear the doubt the other two may then be used, but separately, using the sub-cuticular first. Let me say this, any person who is sick enough to go to a physician for an examination thinking there is a possibility of his having tuberculosis, deserves the most painstaking examination and the utilization of every thing one has at hand to enable him to arrive at the truth,—spending not a few minutes, but

hours, days or weeks until he can say yea or nay with some degree of positiveness.

It is superfluous to say that tuberculin is beneficial and curative in the treatment of tuberculosis. This has been and is the decision of practically everyone who has used it extensively, carefully, wisely, and prudently. The longer and the more one uses it, the more profoundly impressed he becomes with its potency for both good and evil, and the more he insists upon its careful administration. But because it must be used properly to get results, and will produce harm used improperly, would no more preclude its use than the same thing would preclude the administration of strychnine or digitalis. There is great need of a more accurate standardization of tuberculin. On account of difference in virulence of different strains of organisms it varies in antigen potency, in proportion as the different strains from which it is made varies. So a mg. of a tuberculin made from one strain of organisms would be practically sure to vary in antigen potency from a mg. of one from another strain. This difficulty with our present knowledge is impossible to overcome, but there is one in reference to a more uniform nomenclature which can be, and that is the variable strength of the solutions made by different manufacturers, and the reference by one to the dilution, and to another to tubercular solids when speaking of doses. To be explicit, T. R. **solution** carries 10 mg. of solid to the cc., and B. E., put up by some manufacturers, carries 5 mg. to the cc., while others put one mg. of solid to the cc. It makes quite a great difference as to whether one refers to solids or solutions in reference to doses. We should have a universal plan, in my opinion, of referring to solids when we name the dose, and in this way much confusion could be avoided. In the paper read before the Association one year ago, I referred to solutions when doses was mentioned, I have begun since that time to estimate my doses exclusively in solids. This makes a difference of from 200 to 1000 fold less, owing to the

dilution, in each dose. That is, .001 of a mg. of the solution would be equal to .000001 mg. of solids, where the solution is 1 mg. per cc., or .000005 when it is 5 mg. per cc. This method applies only to B. E. and T. R., as the other forms of tuberculin are filtrates, and we can only estimate the dose in each respective solution according as it has been standardized by its originator.

I am now using only B. E. in my therapeutic work, though I am not prepared to say whether or not it is better than T. R. We should unquestionably select one or the other of these as the best of them all as immunizing agents. The dosage should be from .0000001 to .000001 of a mg. of solids. Even doses so small as these will often give most marked reaction. These doses are repeated from one to three times a week, owing to the progress the patient makes, and the degree to which he tolerates the vaccine. I increase my dosage much more slowly than formerly, making an increase only once in every two or three weeks, and then not over 10%. Covering a period of one year, the quantities and length of time between administration will run a ragged, irregular up and down course with a tendency upward in dosage and lengthening the time between administering them, reaching a maximum of .001 mg. and giving a dose every two or three weeks. I never rarely give over .001 mg. except as a test dose, and for this I rarely give over .01 mg. as a dose. Since reporting my work to the Association last April I have had under treatment in my private practice 56 cases to whom tuberculin has been administered. I make no mention of the cases where vaccines have not been given, as they are principally third stage cases that have the usual line of treatment and are uneventful. Neither do I mention the cases treated under the auspices of the Anti-Tubercular Association, of Atlanta, many of whom I am treating with vaccines, as these like all outdoor clinical patients cannot be handled in a way to make one's observations of much practical value. The cases to which I refer embrace only those who have been

treated as long as two months, as the ones treated for a shorter time could not possibly make much change. I shall not read the tabulated list of these cases at length, but will only give a summary, which is as follows:

First Stage—Number treated, 16; apparently well, 10; improved, 5; not improved, 1.

Second Stage—Number treated, 14; apparently well, 5; arrested, 2; improved, 6; not improved, 1.

Third Stage—Number treated, 26; arrested, 3; improved, 10; not improved, 13.

It is only those cases that are more or less chronic that have responded well to treatment at my hands. A few of the third stage chronic cases have responded well. Many of the second stage cases and all of the first stage ones except those whose resistance is almost nil, the disease acute and progess rapid. I wish to state in conclusion that tuberculin therapeutics is rational and scientific in theory and that experience has demonstrated its practical value. Its administration has been such that it not only warrants my continuing its use, but assures me that it is par-excellence the best treatment in properly selected cases of tuberculosis.

HOOK-WORM ERADICATION

L. J. Sharp, M.D., Commerce, Ga.

A small worm whose favorite abode is in the upper alimentary canal, was named Hook-worm by its first discoverer, 330 years ago; another independent discoverer named it Uncinaria, and another, Ankilostoma. The most common type was named by Dr. Stiles, Necator Americanus (American murderer).

I have had very little experience with hook-worm disease, but think that I see a great many cases; although my practice is in this part of the state where this disease is least prevalent. I have inquired of neighboring physicians of large practice about cases, and, they say, they have had very few; some none. I have treated about a dozen cases. One was one of my farm hands, that lost two months work and had to be forced to take treatment by his parents.

Another was sent to me by a landlord to be treated for ulcer of the leg. She belonged to a large family, and all but one appeared to have it. Only one other of this family has taken treatment, and she, as well as all other cases I have treated, were required to, by their parents, because they became too weak to work.

None have applied for treatment or sent specimens for free examination of their own accord.

They are a very indifferent set, and seem to be affected with a similar mental state of some belonging to our profession, as well as others, who seem to take a pride in publishing in the lay press, their want of faith in the lazy worm ideas. They are a great stumbling block in the way of hook-worm eradication. Cases of Uncinariasis frequently give quotations from them when the subject of hook-worm is mentioned.

When I see a suspect, and opportunity presents, I usually tell them their pallor can probably be easily

cured by their family physician at a small expense. None of these have shown any improvement except those I treated, hence I judge the others have taken no treatment. Evidently some relation exists between this disease and this state of indifference. Hence I think the public should take special interest in them. Many of you have been too busy to keep up with the literature on this subject, and I will abbreviate some of it bearing upon the subject of eradication:

The first question that presents itself is: Does this worm do enough harm to justify the effort necessary for its eradication?

Doubtless this disease has existed since the origin of man. It was described accurately in Egyption literature about 3500 years ago. Only in the latter part of the last eight years has any special attention been paid to it. Dr. Stiles says he incidentally came across a family where fifteen had died and the remaining five had hook-worm. The parents said the fifteen died with the same disease that the five had. He visited 130 Southern cotton mills and diagnosed Uncinariasis in one out of eight operatives on inspection; the microscope would reveal eggs in from 50 to 70%. Dr. Newton Evans examined 147 soldiers, apparently healthy, and found 64 had hook-worm. Chamberlain found 60 in 100. In a State Normal School at Austin, Texas, 31 were found in 100; of the medical students at Tulane, New Orleans, 38 were found in 100. Dr. Schnause, of Cecil, Ga., says he had 849 cases in three years. Dr. A. G. Fort, of Lumpkin, Ga., says he has treated 600. Many report large numbers of fatal cases due to hook-worm alone, and many more that succumb when complicated by other diseases. Drs. Stiles and Harris say there are more cases of Uncinariasis than any other infectious disease in the South. We also see that it produces mental and physical weakness, prevents proper development, injures those most that are the most dependent and are the hope of every country (the children). Would you say a little more

sleep, a little more slumber, when there is such a subtile and destructive foe at your neighbors' door, if not our own? It does not attack with a great display of arms or noisy implements of warfare, but casts off great numbers of invisible eggs daily in human discharges. In rural sections these are strewn over hills and valleys, by the highways and in the hedges, scattered by everything that comes in contact with them; and the little worm that soon escapes can remain for a long time waiting in ambush and will penetrate the skin of the first human with which it comes in contact, plows through the tissue of the body, lodges in its favorite abode, in the small intestines, where it saps the life fluids from and poisons its subject.

Their eggs must be discharged from the body to be hatched and developed. This gives us a fine opportunity for their eradication. They prefer a warm climate; sandy, loose, shady and moist soil.

We have ample reason for making war against the hook-worm alone, but since the typhoid germ and a few others are cast off and spread in the same way, we have more than sufficient reason.

The Washington Health Report, of March 18th, says: "Recent examinations of varying numbers of rural homes from 110 to 135, in North Carolina, 62% had no privys; in South Carolina, 65%; in Georgia, 70%; in Florida, 30%. Two families of whites to one of black had privys."

The population of whites to negroes in the South is about five to four. Negroes that have had examinations show a larger proportion infected with hook-worm. Animals have hook-worm, but a different type, hence all human discharges should be properly looked after.

Teach the public, first, not only the cause of Uncinariasis but the cause and means of prevention of all contagious and infectious diseases. Have the government issue a brief book on sanitation, and require all teachers to pass a thorough examination on this book; teach it

exclusively to all the pupils during the first week of each term, and each student be required to pass a satisfactory examination at the end of the first week in each term or get no benefit of the public fund. Invite and admit the public free first week, and have night lectures for the general public. During, or before, this first week have ample and proper privy accomodations; have well and springs covered insect proof; have all undergrowth or other obstructions to free access of air, sunlight and public view, removed from the school grounds a distance of one-quarter-mile if practicable.

Require certificate from a qualified medical examiner that the school applicant has not been recently exposed to contagious disease, and that there are no typhoid or tubercle bacilli or hook-worm eggs thrown off. All this should be free of expense to the applicant. Mailing cases for sending specimens should be furnished free to any one that asks for them and continue free examinations by boards of health.

Make it unlawful for any one to pollute school buildings, yards, play-grounds or water supply with any human discharge, and that all such shall be covered. Dogs and cats do that much. Where soil is infected with hook-worm, recommend that shoes be worn and that the skin of every one be kept free from dirt, especially children's. Require the disinfection of sewerage, and the proper construction of privy boxes.

Large sums of money are spent annually by incorporated towns to no benefit on account of improperly constructed privys. The book on sanitation should illustrate and instruct how to make a privy box. I have investigated and decided that the best thing to my mind, all things considered, for a rural privy is a seat, with opening, fastened to the top of a galvanized box or tub with a loose pin "T" hinge, and a close-fitting lid hinged over this so neither can be left open or allow entrance of insects. If far enough from any ones water

supply, it should be placed over a deep dry-well in which the discharges will soon liquify and disappear. One or more wells could be some distance from the closet to escape polluting water and the box be carried and contents emptied into it and covered with ashes or dirt each time. The lid on the box can be removed and replaced by means of the loose pin in the hinge.

The lay press should be supplied with such matter as should be published, and this should be the special duty of those that are authorized to do such work, to whom all should submit everything before publication. The names of suspects should be sent to boards of health.

Hook-worm have been proven to live eleven years, and many live many years longer, so we should destroy them, which can be easily done in the human with thymol. Hook-worm should be added to the list of diseases for which treatment is furnished free to the poor.

Thanks and honor to our Legislature for their good work on this line.

Treatment need be taken only one day each week until no eggs are found under the microscope or worms found when feces are washed through cheese cloth. Remember thymol is soluble in oils and alcoholics, if dissolved, can poison the patient instead of the hook-worm. Remember oils are in butter, sweet milk, soups, meats, etc., alcohol in drugs, drinks, etc. Nothing should be taken for six hours before, and six hours after thymol, except by a physician's instruction.

Give salts or calomel Saturday night, omitting supper. Next morning at 6, 7 and 8 o'clock give, in capsule, ½ gr. thymol each dose, for every year of age, or more to the vigorous, salts or calomel with the last dose, light food at 9 or later, and if no move by 12, give enema.

No one has more influence in a medical way over a family than their physician, so we ask you to go out in this missionary field, teaching cleanliness, which is next to godliness. You may fail in part, so did Moses and the Prophets.

HISTORY OF HOOK-WORMS IN GEORGIA; INFECTION AND ITS PREVENTION.

Claude A. Smith, M.D., Atlanta, Ga.

It may be of interest to the members of the Medical Association of Georgia to know how hook-worms were first discovered and recognized in Georgia.

In the fall of 1901, while experimenting upon dogs and producing experimental hyprophobia, Mr. Joel Hurt, of Atlanta, came to the laboratory to consult me about some fine fox hounds which were rapidly dying with a peculiar disease. He had consulted a number of vetinarians and various diagnoses had been made. He was not satisfied and desired me to investigate the condition and, if possible, suggest some remedy. I informed him that I was working with dogs only for possible results to benefit human beings, but out of scientific curiosity I agreed to make examination of the dogs of he would send a couple of the sick ones to the laboratory. He did this, and upon examination, I was unable to determine the cause of the sickness, and, upon the death of the animals a thorough post-mortem disclosed a considerable number of small worms about the size of pin worms. Examination of these worms with the microscope disclosed large crater like oral cavities, showing them to be different from the pin worms. Upon investigation, I found them to be hook-worms.

I then examined a number of dogs and found the majority of them to be infected with this worm, as well as some others, but the abundance of the hook-worms caused me to suspect that possibly people who handled dogs might become infected and if the disease was so common among dogs, then might it be possible that

many people could be infected wiih the parasite and it not be recognized.

As pathologist to the Grady Hospital, I then took the pains to make a thorough inspection of the alimentary canal of all human bodies which came to autopsy. On the night of December 12, 1901, at 10 p. m., while making a post-mortem examination of the body of a mulatto, who had been sent to the hospital from the city stockade, among other conditions I found the mucuous membrane of the small intestines dotted with hook-worms. There were present at the autopsy some of the internes of the hospital, and I was so delighted with my discovery that I sent one of them across the street to invite Dr. H. F. Harris to come over and see them, which he did.

I collected the hook-worms and found there were 320 of them, I also collected the feces containing the eggs from the intestines and later poured them through a stomach tube, into the stomach of a dog in order to see if it were possible to infect the dog with these eggs; the dog having been previously examined and found not to be infected with the hook-worm.

At that time it was not generally known among the medical profession that the species of hook-worm in the dog were different from those in man. Not knowing this, I supposed that the subsequent hook-worms which appeared in the dog had come from the eggs which I had introduced into the stomach.

After finding a case in a human being, I made careful inquiry into the history of the case and found that the man had not been out of the Southern States, his home having been originally in Florida. This showed that the disease must be endemic in the South. In looking up the subject of ankylostomiasis in Europe, I learned that the disease was supposed to be transmitted through moist clay, as it had been found to be prevalent among tunnel diggers, mine workers and such classes of people in Europe.

In studying the matter, it occured to me that the State convicts working in the country near the city of Atlanta on the Chattahoochee river might possibly have become infected. Therefore, I took the matter up with Dr. S. H. Green, physician at these convict camps, and he very promptly and kindly consented to co-operate with me, and secured for me specimens of stools from twenty of the convicts who worked in the clay pits. This was January 1902. Examination of these specimens disclosed the presence of hook-worm eggs in two of them. This convinced me that the disease did exist in this section of the country, and the question then arose in my mind as to just how prevalent it might be, and I began making investigations along this line, with the result that I finally found that this disease was undoubtedly the most common of all diseases in Georgia. These three cases were reported by me at the next meeting of the American Medical Association, which was held at Saratoga Springs, N. Y., the following June 1902, at which meeting I reported these three cases also the experiments on the dogs.

At that meeting, I learned to my surprise that the hook-worm in the dog and the species in man were entirely different and that the dog species had never been known to infect man. This was called to my attention by Dr. H. B. Ward, then dean of the University of Nebraska, now professor of Zoology at the University of Illinois. Soon after my return from Saratoga, I received the following letter from Dr. Stiles:

"DR. CLAUDE A SMITH,
"Atlanta, Ga.

"Dear Doctor:—I note on page 1062 of American Medicine that you reported a case of ankylostomiasis in man at the recent medical meetings. According to the abstract, you succeeded in infecting a dog with the specimens from man. I write to inquire whether you are correctly reported. Two different species of hook-

worms occur in dogs, and it has been thoroughly demonstrated that the form in man found in Egypt, namely, **Uncinaria duodenalis** or **Ankylostoma duodenale,** can not reach maturity in the dog. Would you kindly let me know whether you performed the experiments as reported, and if so how you did it. Would you also kindly let me examine the specimens from man, which you have found in your case, so that I may determine whether they belong to the species **Uncinaria duodenalis** or **Uncinaria americana.**

"I am at present correcting proof of the report on Uncinariasis in the United States.

"Very respectfully yours,

"CH. WARDELL STILES."

I also learned from the reprint, which Dr. Stiles sent me, entitled, "A New Species of Hook-worm—(Uncinaria Americana)—Parasitic in Man;" that my discovery had been preceeded by that of Dr. Allen J. Smith, of Texas; Dr. Thomas A. Clayton, of Washington, D. C., and Dr. Bailey K. Ashford, of Porto Rica. Up to the time of the Saratoga meeting, I had supposed that I was the first discoverer of ankylostoma as being endemic in the United States.

In compliance with the request of Dr. Stiles, I promptly sent him specimens of the hook-worms which I had obtained from the mulatto, also, from the dog. After receiving this, he wrote me as follows:

"DR. CLAUDE A. SMITH,

34 Auburn Avenue, Atlanta, Ga.

"Dear Doctor:—I am in receipt of your letter of July 31, and also the specimens mentioned, and wish to thank you for your kindness in sending them to me for examination. You do not state whether you desire the specimens returned. I have entered them temporarily in the catalogue of the Bureau of Animal Industry, but if

you wish them returned I will see that your request is complied with.

"The specimens from man, B. A. I. No. 3423, belong to the new species of hook-worm which I recently described, namely, **Uncinaria americana.** Both lots from the dog, B. A. I. Nos. 3424 and 3425, belong to the species **Uncinaria canina.** It is therefore impossible that the infection of the dog came about by the feeding experiments. The specimens from the esophagus of the dog, B. A. I. No. 3426, belong to the species of **Spiroptera sanguinclenta.**

"Referring to the species **Uncinaria americana** and **Uncinaria canina,** you will note if you examine the head, that **Uncinaria americana** is provided with lips but does not possesse the prominent incurved ventral hooks. **Uncinaria canina** is provided with six ventral incurved hooks, and thus is closely related to **Uncinaria duodenalis,** the Old World species which occur in man.

"I enclose you herewith a reprint of my short articles in American Medicine on **Uncinaria americana.**

"I would suggest that you publish a short note immediately in one of the medical journals, stating that you have submitted these specimens to me for determination, and that your case in man is due to the new species **Uncinaria Americana**; also that the parasites from the dog were distinct from that form.

"Very respectfully yours,

"CH. WARDELL STILES."

Upon my return from Saratoga, I made a careful examination of the dogs, which I had supposed to have been infected with the eggs from the human being; I found that it did not contain the canine form of hook-worm. I then examined some other dogs which were in the pen with it and found that they were also infected with this same form, indicating that they had probably infected the dog upon which I was experimenting, and in this way I had been deceived in my experiments.

After finding the disease so very prevalent in Georgia, I next took up the discussion of the source of infection and reports of the "Old World" investigation indicated that the infection came from clay, either by getting on the hands or being carried to the mouth as clay eaters. In looking up the matter I found that Loos claimed to have actually infected himself by getting some of the larvae upon the skin, through which he claims that the parasite had passed. Also Bentley, in India, reported that the pana-ghao, or ground itch, of the coolies in India was due to the larvae of the hook-worm.

The history of most cases were so indefinite that it was difficult to reach any positive conclusion as to the exact mode of infection. However, I finally encountered one case which gave an unusually clear history and which seemed to indicate positively that the person could not have been infected, either through drinking water, food, or carrying dirt to the mouth, my soiled hands. A minute investigation of other cases finally convinced me that the mode of infection was usually, if not altogether, by means of the skin.

I then made numerous experiments by placing the larvae upon the skin to determine whether it were possible to be infected by this means. This I finally succeeded in doing, and the results were reported to this Association in 1904 and 1905. The photographs exhibited show one of these experiments.

From continued observation and study of the conditions under which the larvae of the hook-worm may develop, I have found that there are only certain seasons of the year when people are liable to become infected. The larvae will remain alive in the soil for many weeks and months, but can not get to the skin to penetrate it. I find that they come in contact with the skin only when the ground is wet; then they will climb upon blades of grass and shrubs while they are moist. In this way persons are infected through the so-called "dew poison."

After thoroughly understanding the means by which the parasite reaches the skin, the next most important question was to find some method of preventing this. A careful study of the habits and customs of the class of people most commonly infected with the hook-worms showed that it would be almost an impossibility to get them to make such changes and sanitary improvements as would prevent the possibility of soil pollution. After studying the matter from every point of view, I came to the conclusion that the most feasible plan of the eradication of this vampire of the South is to have the people instructed throughout the rural districts that ground itch is a most dangerous disease, and not one to be lightly overlooked; that it is difficult to cure after once established, but that it can be prevented by avoiding mud and dew.

I find that many people, both white and black, in soil polluted areas, do not become infected and their escape is traced to the fact that they religiously instruct their children to avoid the dew and not to wade in the mud. When the importance of this simple knowledge is spread throughout the land and is heeded by the people in the rural districts, the disappearance of the hook-worm will be a matter of a few years.

HOOK-WORM DISEASE WITH SPECIAL REFERENCE TO TREATMENT.

F. W. Schnauss, M.D., Cecil, Ga.

After all that has been said about this disease at the different sessions of this body, it would seem useless to further discuss this subject, were it not for the fact, that judging from the tone of the letters that I have received from this and neighboring States, that there still exists a great deal of ignorance along this line, especially as to treatment, and as we are meeting in a new section of our State this year, coming by reason of proximity into contact with a new element, I do not think it amiss to present these lines for your consideration.

I am further strengthened herein, as a new impetus has been given to the cause through the munificence of Mr. Rockefeller and by the honest conviction that the real good to the patient and the State will have to come through your hands, the general practicians, the men who practice in the rural districts, the man who carries his drugs in his saddle bags to the mountain fastnesses or in his buggy case over the rural plains to his patients, who dispenses his own medicines and watches their effect and who, by force of circumstances and surroundings, has to work out many perplexing problems for himself and hew the Gordian knot of seemingly unsurmountable difficulties.

I further wish to state that I belong to this category and what I have to say and advocate is practical, having a small army of 857 cases treated within less than four years to attest the accuracy of my statements.

You will also notice that I say things that are not orthordox in certain circles, but whenever theory and

practice conflict, I let theory go to the winds and do the practical things and get results.

You will see by this specimen that they are small worms ½ to ¾ inches long, the male being shorter than the female. They resemble in size the common pin or seat worms. They live in the small intestine of the victim, chiefly the duodenum.

Before I knew how to guard against vomiting, I had them thrown up in two instances during treatment. When expelled during treatment, they generally have a pale pink color, some are darker, some even black according to the amount of blood ingested from the victim.

Under the microscope the eggs can often be seen within the female. An immense quantity of eggs is laid by the female, and then pass out with the fecal matter and under influence of moisture, warmth and oxygen hatch in a few days and are ready to infect a new host by penetrating the skin, especially of barefooted children, giving them the so-called ground itch.

By a circuitous route, the worms finally get into the small intestines where they attach themselves and suck blood, sapping the victim somewhat on the order that a lot of ticks or lice will pull down an old cow.

I have noticed that I was never able to dislodge the worms by simply purging the patient, I always had to resort to the anthelmintic and kill them before they would turn loose. I believe that the only mode of infections is through the skin, as has been done successfully by Loos in the old country, and later in America by Dr. Claude Smith, of Atlanta.

I tried to infect myself by swallowing embryos contained in a capsule without any positive results.

The mode of infection suggests the prophylaxis. Prevent the children from catching ground-itch by keeping them shod in warm rainy weather.

I worked out this problem to my satisfaction in my own family, by preventing soil pollution and keeping

shoes on the children's feet during the ground-itch season, the older ones who were not protected had ground-itch and had to be treated, the younger ones escaped. We all drank water from the same surface well, so the infection did not come from that source.

After the victim has been infected, several symptoms due to the loss of blood follow as a general, but by no means invariable, rule. The patient becomes anemic, emaciated, looses flesh and there is a general lack of development and energy.

This disease has been called lazy disease, but I find that the patients are really not lazy, but just listless and unable to work. The spirit is willing, but the flesh is weak in a good many instances, and as soon as treated a general increase in flesh and spirit is the result.

While as I have said not all and in a few instances none of the general symptoms are evident, you will find that in the majority of cases the victim in about eight to twelve weeks after being infected will begin to gradually grow weaker. The hair is lustreless and dead looking, the sexual organs undeveloped, patients who by reason of their years should present the appearance of men and women being to all intents children. Many are pale and bloated, the abdomen being very prominent. If there is a great loss of blood, dyspnoea and tachycardia are prominent symptoms and on exercising the patients are easily exhausted. Some develop a dermatitis with indolent ulcers, a kind of itch supposed to be due to an irritating substance circulating in the blood. The eyes suffer from the general anemia, they have a peculiar stare, the sclera is white, the conjunctiva pale. As a result of impaired nourishment the lens suffers and dimness of vision and cataracts are the results.

The children are backward at school, their mentality being impaired. The appetite is often capricious, dirt eating being of common occurrence.

I believe that the sufferers receive relief by the

mechanical irritation caused by the passage of the ingested dirt, sand pebbles, bark and bits of sticks, for immediately after removal of worms this habit ceases, even before there has been an increase of blood.

I believe that along with the several symptoms of dyspepsia complained of, a toxic arthritis of the hips and other joints is frequently found.

In several instances the disease had been diagnosed as appendicitis and patients were saved from the surgeons knife. Eneuresis is often present and I now make it a rule, if anything goes wrong with the waterworks to examine for the eggs of the uncinariae. In girls you will find menstrual disorders, amenorrhea dysmenorrhea and menorrhagia.

I wish to lay special stress on this phase, as a careful diagnosis and treatment has in at least one case removed the suspicion of wrong doing from a patient. Miscarriage is sometimes the result of anemia, though the greatest trouble I find during lactation, when the mother speedily gives away under the double strain of child and worms.

In this connection I wish to call your attention to my belief that thymol is excreted by the milk, anyway I had to stop treatment in a case of this kind as the youngster would squall after nursing a mouthfull. Thymol is very pungent.

I also would like to call your attention to the fact that enteric fevers are greatly aggravated by the presence of worms. I examine the stools of all of my fever patients. Attention has been called to the dark or red colors of the stools as a diagnostic symptom; this has not proved of any value in my cases, neither has Weber's test for occult blood been of any benefit. Most frequently I find indican in the urine of the patients, who complain of severe dyspepsia.

After all that has been said it would seem to be the proper thing to treat every person according to this symptomatology without microscopical examinations.

This plan was advocated by no less an authority than Dr. C. Wardell Stiles at the late Hook-worm Congress in Atlanta. Gentlemen, do not do it for the following reasons: In the first place it is unscientific, you do not know what kind of worms you are having to deal with, if any are present, it breeds a careless way of making a diagnosis in a happy-go-lucky manner; your patient is entitled to your best efforts, you ought to treat every one on the square, your patient is not impressed with your skill, you lack the confidence that certainty of a correct diagnosis gives you, you can always succeed better in treating your patient when you get his co-operation and can show him what ails him, and last but not least, one wrong diagnosis, one failure to produce the goods, the worms, especially for a beginner after subjecting the patient to the rigors of a vigorous treatment, will hurt your reputation and the most vulnerable part of your anatomy, to-wit, the pocket nerve more than a dozen cures will make good. The proper thing to do is to examine the stools under the microscope. A small particle of fecal matter is placed on a clean slide, a few drops of water are added, the whole well mixed with a toothpick and placed under the microscope.

I carry now with my blood chart, stethoscope and other instruments of diagnostic precision, a small microscope in my grip. It only costs $1.90 and 14c postage, bought from a Chicago mail order house. Under it I can recognize the ova, they appear about the size of a seed or sorghum cane of chicken corn, the thin shell and the roundish bodies within can be distinguished by the trained eye.

It has a magnifying power of 20 diameters, Bausch & Lomb 2-3 objective with 2-inch occular giving 54 diameters, the ova appearing about the size of a pea.

While the State Board of Health will make free examinations for you, I advocate every man doing his own work, you will diagnose many cases where you will not take the trouble to send the stools to the laboratory and

you will find many things that you are not looking for, besides making a habit of examining the stools which I consider just as important as the urine.

If your patient comes to you without his "sample" of the stool you can get quick results from the quick action of glycerine suppositories. I keep both children and adults size at hand in my office. After having diagnosed your case, you decide upon the treatment. Here, several things are to be considered. First, the condition of the patient, the loss of haemoglobin and the action of the heart. If the haemoglobin, as shown by Talquist Chart, registered only 20% or less, I give Tr. Ferri Chloride 10-20 gtts.t.i.d. in sweetened water; if a haemic murmur is present, I use Tr. Digitalis in 10-20 drop doses and sugar after meals, slipping in an occasional capsule of the anthelmintic at bed time, after giving him no supper. As soon as the blood goes up to 35% or 40 %, I remove the worms in toto, if possible. For the successful issue of the treatment, it is necessary that the ailmentary tract be as nearly empty as possible, so that the worms are not covered by any fecal matter and the anthelmintic prevented from reaching the worms. You also want to be careful not to get the patient nauseated or he will vomit up all of the medicine exhibited and love's labor will be in vain.

I begin the preparatory treatment on the first day as a rule by giving at noon a light meal of bread and milk. I find that the patients stand the treatment better when first given this light meal. At 2 p. m. I give 1 gr. of calomel; at 3 p. m. 1 gr. of phenolpthalein; at 4 p. m. 1 gr. of calomel; at 5 p. m. 1 gr. of phenolpthalein; at 6 p. m. 1 gr. of calomel, and at 7 p. m. 1 gr. of phenolpthalein.

All these are candy preparations and are speedily and greedily eaten by the children generally. At 9 p. m. I exhibit a table spoonful of Epsom salts in water. No supper. If the patient gets nauseated, have a wet towel placed around his throat. During the night the

bowels ought to act six or seven times. If they are slow I start up peristalsis by giving a soap and water enema or massaging the bowels.

On the second day I do not give any breakfast, but the patient gets at 5 a. m. three No. 0 capsules of betanapthol; at 7 a. m., three more, same size, and at 9 a. m. likewise another three capsules No. 0 of betanapthol. These nine (9) capsules will contain approximately 58 grains of betanapthol. While giving the capsules, I have the patient kept quietly in bed. At twelve (12) noon, I have a teaspoonful of Epsom salts given, and at 1 p. m. they can begin to eat gradually, a little at a time frequently repeated, or they will vomit up everything.

The calomel and the phenolpthalein tablets used are pink colored and put up in a saccharine base, flavored with wintergreen and are eaten by the patients, generally children as candy.

You will notice I have only taken two meals from them viz. supper and breakfast. I like betanapthol betten than thymol for the following reasons: It is not so pungent and does not cause the burning in the patients stomach like thymol does, it comes already powdered of the right consistency to put into capsules, you give it in smaller doses than thymol, it does not pack in the capsules like thymol sometimes does and you lose your shot by the thymol passing through intact and if you dispense your own drugs and prepare your own capsules, you are not annoyed by having your eyes and your hands between the fingers feel like being on fire for an hour afterwards.

I always leave written instructions with the patients and make sure that they can read them. I call the calomel tablets small red tablets and the phenolpthalein large red tablets in these instructions. I also give written caution not to use any oil, whiskey, grease or alcohol during treatment and only to give enough water to swallow the medicine. The reason is this, if a patient

drinks a lot of water on an empty stomach, he is apt to vomit up everything and love's labor will be lost again.

If you will look up your Materia Medica, you will see that the maximum does of thymol or betanapthol is put down as 5 to 10 grains. These drugs are dissolved in alcohol or oleaginous menstrua, but not in water and if absorbed are dangerous, but administered as described, have never given me anything but good results. I do not like the giving of small doses of thymol over a prolonged period, as advocated by Dr. Stiles, for the following reasons: I could not get good results, the stools still showing ova after several weeks treatment, I had no worms to show my patients as trophies of my skill and lost his praise and the ethical advertising of his family.

Under a mixed diet with fats, I got absorption and the toxic effect and children do not like to have a capsule crammed down their throats for weeks at a time and the whole thing reminded me too much of the kind-hearted fellow who amputated the little dogs tail by inches in order not to hurt him too much at a time.

To see the worms I have the patient use a vessel partly filled with water after exhibiting the second dose of worm capsules, the worms will gradually sink to the bottom and can be seen there after treatment by gradually pouring off the supernatant fluid. As an after treatment, I give the patients Tr. Ferri Chloride, and if the heart is weak and a haemic murmur present, I exhibit also Tr. Digitalis and find I get good results. In fact you can temporarily build up the patients with these drugs or the old-fashioned vinegar and nails without harming them.

In conclusion I wish to state that without improving the hygienic condition in regard to soil pollution in our midst, this treatment has been so successful in my hands and those of the neighboring physicians, who also treat for hook-worms that we now draw our patients and

their dollars chiefly from the territory of other doctors, who are not up to this proposition.

Sapienti sat—nuff said.

DISCUSSION

Dr. A. G. Fort, Lumpkin: In hook-worm disease, ulcers of the shin are occasionally noticed; this is a condition that is often met with in various portions of the country by men who are treating this disease. In Florida, for instance, they are met with in nine out of ten cases. I do not know whether climate has anything to do with it or not, but it is usually supposed that the anaemic condition of the patient, as well as the toxic condition of the blood, is responsible for these ulcers of the leg.

Dr. Sharpe has called attention to the fact that, in order to get the best results among these people, they should be treated free of charge; I wish that could be so.

In regard to the lay press; the lay press should help the physician all it could and help him in the various localities, calling attention to what is being done for the eradication of hook-worm disease. Instead of blocking his work, the press should encourage him. It is only by the hearty co-operation of the physician and the press, as exemplified by the work in Florida, that the people can be reached. I think the press has more to do with this than any other agent.

Dr. Sharpe mentioned the fact that he had only one negro under his observation who had hook-worm disease. The negro certainly possesses a certain amount of immunity to the disease; while the negro suffers but little from the disease, he is a disease carrier, carrying the disease from one place to another. In this the negro is dangerous.

In visiting one of the schools in Florida a few years ago I found eighty-five (85) students, among which number, seventy-two (72) were looked upon as being suspic-

ious. Among the five (5) teachers, there were three (3) suspects. Hook-worm disease exists there even more than in the southern portion of our state. In order to stamp this disease out, we must look to the hearty co-operation of all the physicians who come in contact with hook-worm disease.

Dr. R. P. Izlar, Waycross: I should like to ask Dr. Smith if he has noticed in some cases that a coating of mucus surrounded the hook-worm. I have noticed that a patient with this disease, if the hook-worm was surrounded with a coating of mucus, only a few were passed as the result of treatment. In such cases I doubt very much if the patient ever gets well. I have treated two or three cases in which the worms have been surrounded by thick mucus and I came to the conclusion that this mucus in some cases protected the worm against the action of thymol, giving it an immunity, or a partial immunity. This is a question I think is worthy of our consideration, and I should like to ask Dr. Smith what he has to say about this and what conclusions he has come to.

In giving thymol in the treatment of hook-worm disease I have found that triturating it with sugar of milk is not as efficacious as if one gave it in capsules or French envelopes.

With regard to the existence of hook-worm disease in negroes, it is impossible to tell whether or not he has the disease unless the stools are carefully examined; it is almost impossible to tell whether a person has this disease or not by simply looking at him. Examine the stools for evidences of the disease; eggs will be found there if the patient has hook-worm disease.

I remember a banker in our town who came to my office and asked me to look at him and tell what I thought of him. I looked him over very carefully, but could discover nothing. I asked him if he ever felt bad, and he answered, "Never, and I do not suppose that I will ever

be sick." I could find nothing the matter with him. He volunteered the information, however, that "Doctor So-and-So had removed from him, one week before, about two hundred (200) hook-worms." The only reason he was treated was because the doctor was a friend of his. This man's stools were examined and the eggs of the hook-worm were found.

Dr. St. J. G. Graham, Ellijay: A point I should like to emphasize in the diagnosis of these cases of hook-worm disease is the presence of the haemic murmur. Not long ago a little patient was brought to my office, and I thought it had a pulmonary stenosis or else that it was a blue-baby. Even the finger nails were blue. There was present a haemic murmur. The child was pot-bellied. The stools were not then examined, but I arrived at a diagnosis by finding this haemic murmur. The child was given twenty (20) grains of thymol well triturated; this was not followed by calomel or castor oil, but by phosphate of sodium. The child then passed a great many hook-worms. A complete recovery followed and the child today is perfectly well. The presence of this haemic murmur I think is very important in making a diagnosis, especially in young adults, of hook-worm disease; the diagnosis can be made not so much by the finding of the ova in the stools as by finding this haemic murmur.

The right side of the heart is affected in nearly all cases of hook-worm disease, a point which I do not know whether Dr. Stiles has brought out or not; but the right side of the heart is affected in nearly all the cases, and whether it is due to the ova, or to the hook-worm itself passing through the side of the heart, I do not know.

If a sufficient amount of thymol is given and if the conjunctiva of the negro is carefully inspected, it will be found to be as white or pale as that of the Caucasian's. A diagnosis can almost always be made by turning back

the eyelids and inspecting the conjunctiva, as well as looking for the haemic murmur.

Beta-Naphthol should be given with some antiseptic preparation, coated by some agent which will prevent its being set free in the stomach, but which will be dissolved in the colon, or lower down. All individuals with hook-worm disease who have been treated, because of the possible poisonous effects of the thymol, should be followed and watched for a time carefully .

Dr. V. D. Lockhart, Mayesville: I am not an expert in the diagnosis or treatment of hook-worm disease, but I am intensely interested in the subject and I have listened to the reading of the papers this evening with much interest, because I realize that we are dealing with a condition that exists in our State and country which appeals to us as medical men and, therefore, a subject that is of no small importance. I have not had any personal experience in the treatment of hook-worm disease until but recently, when there have appeared a few cases in our section of the State. I have not had a great many cases in my practice. I practice in a small town and am pretty well acquainted with the people there, and I have in mind a large number of suspects. Whenever I am called to see a patient for whom I do not seem to be able to do anything, and when I have prescribed all the medicines which I think might be effectual, but which have not cured my patient, then I make a careful investigation as to the possibility of his having hook-worm disease, and very often I am rewarded by finding the true nature of his trouble.

I should like to relate an instance that occured in my practice a few days ago. A lady sent for me; I had been her family physician for many years. I remarked to her, "Madame, why do you send for me so often; I sometimes believe I am doing you no good in the world; I am discouraged in the treatment of your case and I wish you would go to some sanitarium, or elsewhere,

where you may receive some special treatment for your nervous system." She was the most marked neurasthenic I ever saw, and she was not especially anaemic. Her eyes had been examined with care and the application of proper glasses made. This was several years ago. Finally I told her we would make one more test and look for hook-worm disease. She laughed at me and said, "Doctor,you are poking fun at me." However, at my request, she was examined for hook-worm disease in Atlanta, and the report came back to me that this lady did have hook-worm disease. I do not know, however, if that is the center of all her troubles.

We have had quite a lot of emmigration in a small way from the northern counties; in some way these people from the mountains do get the disease, although it does not seem reasonable that they should have the disease; but they are the people among whom we find a great number of cases.

Some time ago a boy was brought to my office; his head was turned way around, and he was looking over his left shoulder. It was a case of wry-neck or torticollis. He seemed to me to be a case of hook-worm infection, and I found this to be so. After employing the proper treatment for this disease, he got entirely well and is now all right.

With regard to the treatment of hook-worm disease, a matter of the first importance is the proper preparation of the patient for the reception of the medicine. I do not think we should trouble ourselves so much about whether we should give Beta-Naphthol in capsules or otherwise, or how we should give thymol. I give thymol. But we should be careful and have the patient properly prepared for the reception of the medicine we intend to employ.

Dr. M. M. Hallum, Carrollton: I should like to ask Dr. Smith if every case of so-called "ground-itch" developes into hook-worm disease; is every case followed by hook-worm disease?

Dr. Thomas J. Charlton, Savannah: A great deal has been said tonight about the diagnosis and treatment of hook-worm disease but very little has been said on a very important part of the subject, that is, the recurrences. In the sandy soil of the southern portion of our State ninety-eight per cent (98%) of the people who go with bare feet have hook-worm disease. I am in charge of an institution where there are about one hundred (100) boys, and and seventy-five per cent. (75%) of them have hookworm disease. There is not much trouble in making a diagnosis of this disease, and the treatment is simple enough. But I have been very much discouraged because of the recurrences. After very thorough treatment and with a very rapid improvement, one thinks the patient entirely well; yet if the stools are examined two or three months afterwards it is not uncommon to find the worms present, as well as the eggs, in many of the cases. I cannot say that I have absolutely succeeded in curing any of my cases. The point I would like to bring before you is this, What percentage of the cases that you treat failed to recur? Dr. Smith, in his able address, has stated that the worm does not grow within the alimentary canal, but develops outside, and he relates the case where the worm was found in the intestine after living there eleven (11) years.

The practical point I wish to make is this: These cases should be kept under observation for a long time. These cases recur again, again, again and again, and I have become very much discouraged because of these repeated recurrences.

Dr. V. O. Harvard, Arabi: I have been very much interested in the subject of hookworm disease for many years and, in the section of the country where I live, I have been much impressed with the seriousness of it. Last November I read a paper in which I called the attention of the physicians living in the same locality in which I live, to the seriousness of hook-worm disease. They

were all looking for the typical cases. If they looked more carefully for the disease they would no doubt find many cases. In the suspect cases many diagnoses have been made from the anemic murmur alone; this murmur will be found to be present in almost every case of hook-worm disease.

Dr. Crook, Columbus: This subject is entirely out of my line, since I have given up general practice, but I consider it of vital importance to all of us, and I have in the past had a pretty fair experince with hook-worm disease, and I just want to say a word or two. I started out in my work as a country physician and I did what I am not sure was strictly ethical. Whenever I met with a patient whom I suspected to have hook-worm disease, I told him that he had hook-worm disease, or that I suspected that he had it, and he should be treated for it and I offered him medicine free of charge. This is a very common disease, although not so common in the county I live as in other counties of the State. We see a great many phases of the disease. Some of the cases are supposed to be typhoid fever, some malaria, some are believed to be idiots, and even one or two cases of supposed epilepsy have been cured after they were treated for hook-worm disease.

These cases were all diagnosed by inspection and the diagnosis is comparatively simple. Somehow or other the physicians in my part of the State are lukewarm on the subject of hook-worm disease. Many of our cases are imported from other parts of the State and country.

I should like to ask Dr. Smith as to the length of time that elapses between the presence of ground-itch and the infection with the hook-worm, the length of time that elapses until the appearance of the ova in the feces. A few days ago we had a public meeting on hook-worm, and it fell to my lot to read a paper on this subject. The local press of the city was very sceptical about the whole business.

Dr. A. A. Barge, Newnan: I should like to call attention to a point that I think is of vital interest, the fact that many of these hook-worms are discharged, enveloped in mucus; I think that in such cases a profitable course would be to give a preliminary treatment, giving something that will dissolve or liquefy the mucus. My plan would be to give a full dose of chloride of ammonia after meals, repeating this for two or three days. But bicarbonate of soda will dissolve this mucus also. I think that the better treatment would be, however, to give one-half an ounce of bicarbonate of soda in a pint of water about one hour before meals, repeating this for two or three days; this is merely a preliminary treatment to the administration of betanaphthol or thymol. Such a course of treatment, I believe, will surely cure these patients of hook-worm disease.

Dr. V. H. Bassett, Savannah: I think we are all very much indebted to Dr. Smith and to the others who have read papers in this symposium. There are one or two points that I should like to bring up. Dr. Smith referred to the diagnosis being made especially with the microscope. Recently laboratories have been established in Savannah and a large number of examinations have been made. Physicians around and in Savannah are well acquainted with hook-worm disease, and many have diagnosed the disease merely by inspection or physical examinations. I have found that, when I have been given an opportunity to confirm their diagnosis, that they have been very successful in making these diagnoses without the aid of the micrscope, that they can make a diagnosis in this line of work as they can in other lines. However, when it is so simple to make an examination of the stools, thus confirming the physical diagnosis, I think it should be done. In some cases the diagnosis is not confirmed by such an examination. There are a certain number of cases with fever, with chills, with anemia which are regarded as malaria; but when examined care-

fully are found to be hook-worm disease. I think that Dr. Smith has noticed instances of this kind.

From the standpoint of prophylaxis, the microscopical examination should be made. Good results in the treatment of this disease can be obtained by one or two exhibitions of thymol. Fifty per cent. (50%) of patients carrying but a few worms may spread the infection, and the presence of but a few worms may not be determined without a careful microscopical examination; it is only by such a careful examination that one may be sure that he has secured entire freedom of the worms. One is always justified in asking that a microscopical examination be made, not only in those who are known to have hook-worms, but in the suspects as well. It is only by using such care that we can ever expect to eliminate the disease.

Dr. Claude A. Smith, Atlanta (closing the discussion): I heartily endorse all that has been said and especially do I commend the brilliant work that has been done by Dr. Schnauss; he has made more practical advances in this line of work than any man in the service; I wish to congratulate him upon the carefulness and thoroughness of his work. I think he understands the treatment of hookworm disease better than any man.

With regard to, ulcers on the shins, these are usually found in patients with an extremely low haemoglobin percentage, with a circulation that is interfered with; then we find, as a rule, these ulcers of the shins and sometimes on the hands.

With regard to the spreading of information about hook-worm disease it seems to me that I am going over the things today that I went over eight or nine years ago when I started out in this line of work; the greatest difficulty lies in getting proper newspaper education; not only do we have trouble in educating the laity, but very often in educating even members of the medical profession. It is only by such an education that we can hope to

stamp out hook-worm disease.

With regard to the negro being immune; undoubtedly they appear to be less infected than the whites; it may be that they avoid exposure and take certain precautions which the white people do not; the latter are more careless in exposing themselves to this infection.

With regard to the hook-worm being coated with mucus, in my experience I have found that, especially in the duodenum and small intestines, these parts were loaded with considerable quantities of mucus. In such cases you can often give treatment and get no results whatever. Success in the treatment of such cases follows only the thorough cleansing of the intestines with a large dose of calomel or some purgative. Then thymol should be administered.

With regard to the diagnosis of hook-worm by inspection, one should not depend upon empiricism; be scientific. Go back and get the history of a suspect; ask him if he lives in the country and where; does he live in a small village, or in the outskirts; when was the last time he had ground itch; if within eight years, use the microscope. These are a few of the questions which will enable us to make a diagnosis.

Eggs will appear in the stools of these patients about six weeks after infection. Under proper treatment they can be wiped out as easy as "A-B-C." Eggs can be found in the stools about six weeks after the eruption appears on the skin.

Dr. F. W. Schnauss, Cecil (closing the discussion): I heartily endorse what the pathologst from Savannah, and my friend and former teacher, Dr. Claude A. Smith, has said. I think that he has solved the problem of hook-worm disease.

So far as the negro is concerned, it may be that from a certain standpoint, examinations were not made as often as they should have been. A friend reported six hundred (600) cases and among these two-thirds occurred

among negroes. He lives, however, in one of the old slave districts and chiefly among the negro race in Southern Georgia. In my district there is one negro to about one hundred (100) whites. I further wish to state that I do not know the difference between a negro's dollar and a white's man's dollar. I make an examination of the stools of all as a routine treatment, the same as I examine urines. It is of vast importance in the eradication of hook-worm disease that a routine examination of the stools be made, and not an occasional examination.

I agree with what Dr. Smith has stated in regard to the presence of mucus. I believe that the secret of success in these cases of hook-worm disease lies in the thorough evacuation of the bowels, especially the small intestines; clean them out thoroughly; hit 'em hard! Then give a very liberal dose of B-Napthol.

With regard to the use of sugar of milk, every practical man knows what a sticky mess will be made; besides it makes a very bulky mass for the patient to take.

The presence of eosinophilia has been mentioned; such a condition is a valuable adjunct in the diagnosis. However, an outlay of about one dollar and ninety cents ($1.90) will enable you to know just what you are treating; we should not guess so much. The treatment we employ is unpleasant; the patients do not like it. I treated myself for tape-worm once and I know what I am talking about.

Always follow up your patient for at least four weeks after treatment. Give him the proper instructions. Have him return to you every four weeks for further treatment until he is cured. I take these cases for so much; I am honored by them; I want them; it pays me to cure them; I do not want a case to go away and fall into his old ruts.

Water and air are myths so far as the causation is concerned. The female lays the eggs and they are passed to the soil.

When I am trying to infect myself I want to know what I am doing. I want my stools examined to be sure that I have not hook-worm disease; I want to know if any ova are present. The ova should be looked for every two or three months.

SUBMUCOUS OPERATION FOR SEPTAL SPURS; WITH SPECIAL REFERENCE TO THE BUTTON HOLE INCISION AND MODIFIED NICHOLS' SPOKE SHAVE.

Hugh M. Lokey, M.D., Atlanta, Ga.

The removal of spurs from the nasal septum is one of the most minor operations made in the nose, and, yet, the results can be of either greatly added comfort or discomfort to the patient.

The indications for removal of septal spurs are usually to relieve respiratory interference or intranasal pressure. The location of spurs producing such indications is genearlly of the anterior or cartilagenous portion of the septum. These spurs are sometimes of cartilage and sometimes of a fibrous or osseous nature.

It has been generally recognized that the old time operation of sawing off a spur as you would a knot off a log, leaving a large unprotected raw surface to cover over with cicatrices, frequently produces a very uncomfortable nose, susceptible to irritation, and to formation of annoying and scabby accumulations. To overcome this various submucous operations have been devised, all of which are good, and each better applicable to certain forms of spurs than others. All these methods are to make a flap, usually triangular, uncovering the spur, and then to remove the projection with chisel, saw, rasp or dental burr.

The method I suggest is to anesthetise the area over the spur with a 10% solution of cocaine and 1 to 1000 solution of adrenalin, and with the nostril held open with a self-retaining speculum, make a single linear, or

button hole incision perpendicularly in front of the spur, at the same time making counter pressure with the little finger in the opposite nostril; then, with any of the perichondeal elevators used in submucous septal resections, (I use Freer's), elevate the mucous membrane and perichondrium freely from over and around the spur; then slip the shave here shown, a modification of Nichols' spoke shave made for me by F. A. Hardy & Co., through the button hole incision and back over the spur, when with short steady strokes the spur is shaved off, the shavings being removed with forseps or cotton swab. After cleansing the wound, I take one or two sutures and pack the nostril closely with strips of absorbant cotton impregnated with Bismuth Subnitrate. The wound is dressed in 48 hour, and later daily. The sutures removed in four or five days.

Of course, this operation is far more tedious than the one made with a saw, but the after care is much easier, less tedious and less uncomfortable to the patient. And when we take into consideration the fact that with this operation you have only the fine linear scar which is soon obliterated, and by the old method you have an area, varying from ¼ to ¾ of 1 inch in one or both directions covered over with a poorly nourished scar tissue that frequently scabs over and is sensitive to the least irritation, causing your patient lifelong annoyance, it is well worth the task.

RESUME:—I claim for this operation: (1) That, though more tedious than the removal of the spur with a saw, it is comparatively easy operation. (2) The scar, being linear, soon heals, leaving no scabby area such as is left if the spur is sawed off.

A PLEA FOR LEGISLATION HAVING FOR ITS OBJECT THE PREVENTION OF OPHTHALMIA NEONATORUM.

H. H. Martin, M.D., Savannah, Ga.

In order that I may not take up too much of your valuable time, I have caused to be distributed, for the past two days, reprints of a paper read before this Association at the Macon meeting last year. This paper contains practically all that I have to say on this subject and I beg that those of you who have not read it will do so at once. The essential arguments in that paper are substantially as follows:

Ophthalmia Neonatorum is responsible for one-half to one-third of all blindness in the world today. It is absolutely preventable. A single case of Ophthalmia Neonatorum in any educated community today is an everlasting disgrace to the medical men of that community.

Other states are adopting more, or less, drastic laws for the prevention of this disease. The one which I offer for your endorsement is not drastic, but will prove effective in that it forces midwives and some others to use a prophylactic which is harmless and only resuires of physicians in private practice, that they state on the birth certificate whether or not prophylactics were used, leaving the use of the prophylactic entirely in the discretion of the physician. There is no authentic case of record in which the so-called "Silver Catarrh" ever occasioned serious damage to the eye.

In other states such legislation has become an established fact and I again ask that you instruct the legislative committee of this body to secure the enactment of such legislation in this state.

I have here a sample of the outfit furnished midwives and physicians by the State Board of Health of New York, together with the instructive literature on this subject, which it is unnecessary to read here as it will be passed around for your inspection.

In closing, permit me to quote from Pamphlet No. 6, issued by the New York Association for the Blind.

Needless Blindness of Babies—Average of new admissions in ten schools for the blind in 1907 showed that 28.19% were victims of ophthalmia of the new-born.

"In ninety-nine cases out of a hundred, the ophthalmia of infants is preventable and may be prevented by a few simple precautions."

The Cost of Preventing It—A little extra care; a single preventive drop in each eye when the baby is born.

Unwearied and continued effort in spreading knowledge concerning the need of these simple measures.

The Economy of Preventing It—Two minutes of time may save seventy years of darkness.

Helen Keller, when writing on the "Prevention of Blindness," said: "Try to realize what blindness means to those whose joyous activity is stricken to inactivity."

"It is to live long long days, and life is made up of days. It is to live immured, baffled, impotent, all God's world shut out. It is to sit helpless, defrauded, while your spirit strains and tugs at its fetters, and your shoulders ache for the burden they are denied, the rightful burden of labor."

"Once I believed that blindness, deafness, tuberculosis and other causes of suffering were necessary, unpreventable. I believed that we must accept blind eyes, deaf ears, diseased lungs, as we accept havoc of tornadoes and deluges, and that we must bear them with as much fortitude as we could gather from religion and philosophy. But gradually my reading extended, and I found that those evils are to be laid not at the door of Providence, but at the door of mankind."

There are in the United States, at a conservative estimate, 6,000 persons blind as a result of ophthalmia neonatorum.

"'Pity the blind'! Yes, pity those
Whom day and night enclose
In equal dark; to whom the sun's keen flame
And pitchy night-time are the same.

But pity most the blind,
Who cannot see;
That to be kind,
Is life's felicity."

BRAIN TUMOR WITH EXHIBIT OF TWO LIVING CASES.

Wesley Taylor, M.D., Atlanta, Ga.

My first case is a carpenter, aged 38, married and with seven healthy children. He has always been healthy and there is no suspicion or history of lues.

About June 1, 1908, he fell fifteen feet, striking on his back. Not until he got home did he notice that his head was slightly injured as well. For ten days he noticed some dizziness, which was soon followed by headache in the left Rolandic region. This headache gradually increased and there was a tendency for him to fall in that direction. There was, however, no nausea and no symptoms on the part of his eyes or ears or any difficulty with swallowing or with speech.

On the 28th of June he went out in the morning to get a bucket of water. When he started back, he noticed that his right arm and leg were weak and that he could not use his arm for carrying. From this moment, the weakness increased rapidly and at the time of my visit, on the 2d of July, he could not cross his right leg or raise his right arm to his face, though his left side was about normal. Muscular force was very much diminished in the arm and to a lesser extent in his limb. Sensations likewise were lessened on the entire right side and all reflexes were increased. There was a sensitive spot over the Rolandic area found when one tapped with the finger on the left side of his head. His speech had begun to show hesitation and he tired rapidly from speaking. After talking with him five minutes, he became so tired he could not answer in an intelligent manner. I decided that it was necessary to bring him to a hos-

pital, and that an operation was necessary. On his arrival at the hospital, consultation was had with one of our leading surgeons, who failed to see any necessity for an operation. As I insisted, another surgeon was called and they decided to put him on energetic mercural treatment. After he was put to bed and after treatment was begun, I was told that he began to improve rapidly, and my diagnosis of a possible cyst or other rapidly growing tumor over the seat of tenderness on the left Rolandic region received a severe blow. I did not see him for some days, but at the end of the week called to see how he was progressing. As far as it was possible for me to tell, I concluded that he had become decidedly worse. So strong was this conviction that I called up the surgeons and requested another consultation. They first told me point blank that he thought an operation unnecessary. The second one said that he was willing to operate the case, though he would do it on my advice and not because he believed it was necessary or that it would do any good. I told him that I would not accept this sort of charity and that if he had no confidence in the operation, he need not do it. To make a long matter short, I influenced the family to have the case turned over entirely and another surgeon was called. By this time he was unable to feed himself or to take any food except liquids. He had apparently ceased to understand what was said to him when he was addressed, and was indeed in a very miserable condition. On August 11, he was operated and a hemorrhagic cyst or encapsulated clot was found over the left Rolandic area, about the size of a kid glove orange. This had so flattened the convulsions of the brain that they could scarcely be seen. This cyst seemed to be enlarging and had increased the tension very much on the inside of the cranium. From now on recovery was remarkable. There were no complications of any kind and by the time he had recovered from the anaesthetic, he was able to talk and to move his arm and limb, which, before the operation,

had been quite impossible. He sat up in a chair on the 15th, was walking around on the 19th and left the hospital on foot on the 21st, and has been entirely well, as far as is possible for me to see, since that time. There is, I might add, some trouble with memory, so he says, but this is a matter which is so slight that one might say recovery in this case was entirely perfect.

My next case is that of a school boy, aged 12. As to family history, his father is living and well; mother died of tuberculosis at 25; one brother of pneumonia; while one sister, age 14, is in good health. For past history, he had measles at the age of five; is subject to colds, but has always been strong. At the age of six he fell down a flight of steps and struck his head. No permanent irregularity or bump was noticed on the skull at that time. About nine months ago, however, a lump was noticed on the left side of his head which gradually grew to its present size. About the middle of November, what we might call the present illness, began with nausea and vomiting and it was noticed that he could not keep his fingers still, though he had good control of his arms. In a few days he began to lose control of his lower limbs. He could walk, but when his foot was raised he could not measure distances. Then some slight movement was noticed about the arms. He began to lost flesh rapidly, and his eyes would roll from side to side. At the beginning, as far as could be learned, he had no fever. Within ten days from the onset, he was taken to bed because he was no longer able to walk. Several days previously, however, it was noticed that his mind was becoming dull. By this time he would answer only when spoken to, and was slow with his replies. Soon after this, articulation became so poor that he could scarcely speak at all. His bowels were constipated from the start. When I first saw him in the hospital he was lying listlessly in bed, perfectly relaxed and emaciated in the extreme. He could not lift his head and could move his arms only with the greatest difficulty, and even then more from the

shoulder than by virtue of the muscles of the arms proper. When he was spoken to he would only sometimes answer and that slowly and with an unintelligible grunt. He could swallow with the greatest difficulty but could not chew or masticate. Physical examination showed a lump on the left side of his head nearly as large as half a goose egg which seemed to cause him pain when it was handled. He had a temperature in the axilla of 104 2-10, and his pulse was running from 140 to 150. There was dullness of the right apex with rales. A marked tubercular reaction was easily obtained from the use of tuberculin ointment. A specimen of urine showed a very slight trace of albumin, but without microscopic findings. Under these circumstances, it is not difficult to see what sort of a provisional diagnosis was made. This was pretty well concurred in by several physicians who examined his carefully. In cases of any cerebral growth it is my custom always to use some antiluetic treatment. As potassium iodide will usually increase trouble, where there is any suspicion of tuberculosis; I therefore in the case used inunctions of mercury. A surgeon was called, at my request, at the outset to see him, but he was unable to come and examine the case for several days. He entered the hospital on the 17th of December and was referred to me about the 22d. On the 3d of January he was able to be propped up on bed and was sitting up out of bed on the 9th, and running around at will within three days more. He was discharged cured on the 29th, having almost regained his natural weight. His treatment consisted, besides the inunctions of mercury, in daily high colonic lavages. Later on he was put on an iron tonic. He was not given potassium iodide, but in its place succus alterans was used. Since that time he has been and remained entirely well and free from trouble of any kind and has regained his normal weight as well as accomplished the growth which is natural to a boy of his age.

While both of these cases are unusual in my opinion, they go to show the difficulty of diagnosis in brain troubles. In the first case there was very considerable difference of opinion as to the nature of the trouble, and naturally therefore regarding treatment. We had time enough fortunately to enable us to thoroughly try out a strong anti luetic treatment which was done. In the second case there was, I believe very little doubt in the minds of all the physicians who examined this boy, that we had to do with a tubercular process in the brain at least and while time, in this case was very precious, nevertheless mercurials were employed and with results which have been outlined. This case was really as much, if not more difficult than the first one in its general aspects. A resume of these cases will show the exceeding difficulty of diagnosis, and should teach the necessity for a conservative diagnosis. At the same time, one dare not hestitate or delay operation in suitable cases too long. Should an operation not be necessary, if carefully done, it will not accomplish any harm. Lastly in all cases where cerebral growths are suspected one should immediately resort to energetic mercural treatment.

DISCUSSION

Dr. George M. Niles, Atlanta: I wish to commend Dr. Taylor for the interest he has shown and for the trouble he has taken in bringing patients from such a distance to present before this Association. This Association stands for the dissemination of scientific knowledge and the interchange of opinion, and this means a certain amount of work and effort to get up a readable scientific paper; it not only requires effort and time, but it requires that a man should go around among his patients to find what will be of the greatest scientific interest. A man who takes the trouble to bring from such a distance two patients, as Dr. Taylor has, in order to elucidate what he has to say, certainly deserves the thanks of the Asso-

ciation for his laudable efforts in bringing such interesting cases here for observation.

Dr. V. H. Bassett, Savannah: A point of interest in regard to defects in the skull is the following: I have under observation a man who was hit upon the head. A defect was made which was filled in with a celluloid plate, the size of a dollar. This was done by Dr. Murphy, of Chicago. This man received another injury subsequently, resulting in a hemorrhage under this plate, and which necessitated the removal of it. This was done and the celluloid plate reinserted. This was done with success. I think this is the only case ever recorded of this nature.

THE ANAEMIAS OF INFANCY AND CHILDHOOD.

N. M. Moore, M.D., Augusta, Ga.

The normal blood of infancy differs from that of the adult in many particulars, and even throughout childhood there is a tendency for the blood under pathological conditions to revert to this infantile type.

We find during the nursing period that the red cells average about 5,580,000, being highest at birth and gradually reaching a minimum about the tenth year. During infancy a very marked physiological variation in the number of red cells is often found in successive counts. Their size varies much more during this period of life than in adult life, and occasionally nucleated reds are found in the healthy infant's blood up to the eighth month, but these usually disappear by the end of the second week. The haemoglobin, high for the first few weeks after birth, is throughout the remainder of the nursing period relatively low, but then gradually increases until the tenth or fifteenth year when it about corresponds with the adult findings.

The white cells, after the eleventh day, average 12,000 during the nursing period, and about 9,000 from the first to the sixth year. There is normally a relative increase in the lymphocytes during infancy, about 51% to 59% of the whites being made up of these cells.

This infantile type of blood is variously considered as persisting until the third or even sixth year of life. The blood during this time is peculiarly sensitive to pathological influences, and especially is this true of gastro-intestinal disorders. In the resulting secondary anaemias we have a considerable increase in the number of leucocytes and in these cases the relative number of lymphocytes is often above 80%. Nucleated reds are often found

and a simple anaemia during this period of life will frequently give a blood picture which in the adult would be considered of the most grave significance.

As illustrating the peculiar blood findings in the anaemias of childhood, I desire to report the following case of secondary anaemia occurring in a child three years old:

Family History—Excellent.

Past Medical History—Breast fed for one year. Dentition normal. Said to have had two or three attacks each year characterized by fever, vomiting and diarrhoea, at which times bowel movements contained much mucus. During intervals between attacks said to have suffered from marked constipation. Measles one and one-half years ago—uneventful recovery.

Present Illness—Taken sick February 8th, 1908, with high fever, vomiting and prostration. After four or five days apparently recovered from illness, but seemed quite weak, pale and, occasionally, was thought to have a little fever. When seen by me at my office on March 25th, six weeks after this attack, her complexion was pale and sallow with greenish tinge. Odor of breath bad. Four jaw teeth badly decayed. Examination of throat revealed nothing abnormal. Two cervical glands about size of a pigeon's egg, and practically all other lymphatic glands palpable. Examination of heart, lungs, and abdominal organs, negative. Examination of feces and urine, negative. Examination of blood smear showed no malarial organisms, but a decided lymphocytosis. On April 14th had several attacks of vomiting and slight fever. Although constipated, movements resulting from oil were very foul and contained some mucus. There was also considerable gas. Temperature at this time, 100°, and throughout present attack ran an irregular course, never exceeding 102°. Vomiting was frequent during first days of illness, and occurred at intervals until April 26th, when temperature became normal. By May 16th, child was able to be out and seemed quite

well except that she was slow to regain her strength. Examination of urine, April 20th, during continuance of fever and gastro-intestinal trouble, showed: total quantity, 1,200 cc. Reaction: acid, sp. gr. 1010; no albumen; indoxyl increased; no sugar; some large epithelial cells, crystals of calcium oxylate; no casts; no blood. Other examinations during this attack showed no albumen. The blood examinations, for which I am indebted to Dr. M. S. Levy, showed the following condition during this part of the illness:

DATE	Haem. Est.	Reds	Whites
April 16	50%	.....	.....
April 21	25%	.....	19,200
April 22	24%	844,000	10,350
April 22	.....	.....	.....
April 24	30%	1,904,000	6,800
April 26	40%	2,928,000	10,200
April 29	55%	3,120,000	9,200
May 3	.....	3,328,000	8,200
May 17	82%	4,480,000	8,200

DIFFERENTIAL COUNT

DATE	S. Lymps.	Polys.	L. Lymph.	Trans.	Mast.	Eosins.	Norm'b	Megalob.
April 16	91	6.6	2	0	0.4	0	One	None
April 21	89.5	7	2	0	0.5	1	None	None
April 22	90.2	6.3	2	0	0	1.5	None	None
April 23	83	7.7	8.2	0	0	1.1	One	One
April 24	85	9.1	5.2	0	0.1	0.6	Numer's	None
April 26	81.5	14.4	3	0.1	0	1	Numer's	None
April 29	88	8.5	2	0.5	0	1	Few	None
May 3	85.2	10	3	0	0	1.8	Few	None
May 17	33	60	2	3.5	0	1.5	None	None

The patient was apparently well, except that she had not completely regained her strength, from May 16th to June 28th, when she was taken with persistent attacks of vomiting from six to twelve daily, marked prostration, but no fever at this time, although during the succeeding days there was a slight fever and one day before death temperature reached 104°.

At the beginning of this second illness, June 28th, examination of the urine showed trace of albumen, few pus cells, no casts, no red blood cells. Bowel movements resulting from doses of oil given at this time, consisted largely of a gelatinous looking mucus. By July 9th both kidneys were palpable, the right one extending below level of unbilicus. Vomiting persisted to the end, death occurring July 15th, being preceded by several convulsions. Examination of urine one day before death showed that it contained only a small quantity of albumen, and examination of four slides revealed only two hyaline casts, ten red blood corpuscles, no renal cells and no pus.

My interpretation of this case is that it was a severe secondary anaemia due to an alimentary intoxication, and complicated during second attack by parenchymatous nephritis.

The points of interest in the above case are:

(1) The very great increase in the numbers of small lymphocytes; the differential count showing 91% of these cells at one time.

(2) The appearance of numerous normoblasts and one megaloblast.

(3) The very marked improvement in the blood picture between April 22d and May 16th.

(4) The small amount of albumen, and few cells and casts found in sedimented urine just one day before death, in spite of the very marked parenchymatous nephritis clinically evident and demonstrated at autopsy.

A PLEA FOR AN EARLY DIAGNOSIS IN THE TREATMENT OF CANCER OF THE UTERUS.

W. S. Elkin, M.D., Atlanta, Ga.

In presenting this paper I will not discuss to any great extent the pathology of cancer of the uterus, but endeavor to impress upon the members of this Association the importance of an early diagnosis in this disease, and to adopt methods for its prevention and institute treatment that will relieve and cure our patients.

Cancer of the uterus is a very common disease. It affects this organ about three times oftener than any other part of the body. It most frequently occurs between the ages of thirty and fifty, yet no age, except infancy, is a bar to its occurrence. It involves the cervix in a majority of the cases, only about from two to five per cent. of the cancers being in the corpus. It is, strictly speaking, a disease of child-bearing life, usually affecting women who are stout and healthy and have borne five or more children. It rarely occurs in unmarried or sterile women, and when it is found in this class of patients it can usually be traced to traumatism as a result of a previous dilatation of the cervix or curettement of the womb.

The cause of cancer is still an unknown quantity. There are a number of investigators who are adherent to the theory of parasitic origin and quite a number who attribute it to hemic cause, the latter being probably the most generally accepted theory since we know that suppurative processes and certain diseases produce strong antagonistic factors to cancer.

We know that cancer of the uterus in its beginning is a local disease, having its origin in the squamous epithelium of the vaginal portion of the cervix, the cylindrical

cells of the mucous membrane of the endometrium of the cervix and the endometrium of the body of the uterus and the epithelial cells of the glandular structure of this organ. When the cancer effects the vaginal mucous membrane of the cervix it is termed a carcinoma; if it occurs in the cervical or corporal mucous membrane of the utricular glands it is known as adeno-carcinoma. The clinical features of this growth are so closely allied they can only be classified by morphological peculiarities and histological structures.

The chief dissemination of cancer is by means of the lymphatic system and not by the blood. The rapidity of extension is in proportion to the size of the lymphatic ducts and the swiftness of the lymph circulation. This is illustrated by clinical experience, for with young patients we have the most destructive and rapid progress of the disease.

I am sure you can recall cases of carcinoma of the uterus, and cancer in other portions of the body, in old people where the growth of the neoplasms was slow and the death of the patient delayed many years. I wish to cite a case of cancer of the breast in an old lady, ninety years of age, upon whom I operated one year ago this month, amputating the breast, which was almost totally destroyed by the cancerous process, but there was no marked visible enlargement of the axillary or cervical glands. The incision healed promptly and there has been no evidence of a recurrence and the general condition of the patient is excellent today. I am sure if the same condition had occurred in a patient of thirty we would have found marked enlargement of the lymphatic glands in the neighborhood of the breast and a rapid recurrence if the same operation had been done.

The glandular enlargement is of great importance for the involvement of the glands stamps more or less the nature of the disease and influences the surgical procedure. The glands are effected early when the cancer

begins in the cervix. Hence, no time should be lost in advising an operation in these cases.

A careful study of the symptoms of cancer of the uterus is absolutely necessary in making an early diagnosis, and the necessity of this careful observation is emphasized when we consider that within a few months after the development of a cancer of the uterus the larger portion of these cases become inoperable or recur after an operation. Cancer of the womb furnishes better results for surgical work than the same disease in any other portion of the body, due to the fact of the marked difference in the anatomical character of the uterus and the periuterine structure.

The cardinal symptoms of cancer of the uterus are hemorrhage, discharge and pain. In considering these symptoms it must be remembered that they differ somewhat in accordance to the location of the neoplasms. If there was one common symptom of cancer of the uterus present in all cases it would be easy sailing, but, on the contrary, all the common symptoms may not be present in exceptional cases until it is too late to operate. This fact should always be borne in mind or you will be misled and fail to make a thorough physical examination of your patient. It should be your duty to make a positive diagnosis of all patients presenting any one of the symptoms of cancer. The physician is never justified morally or legally in waiting developments in these cases. It is an acknowledgement either of ignorance or lack of professional interest not to investigate thoroughly all of these cases. Hemorrhage from the vagina between the menstrual periods or prolonged menstrual periods, hemorrhage after the menopause are symptoms that should always excite the suspicion of the physician. If the cervix is involved, hemorrhage is almost always an early symptom for the ulceration or granular proliferations bleed very easily. It is an important point in differential diagnosis to remember that ordinary erosions of the cervix, simple ulcers and specific ulcers,

do not have a tendency to bleed as the malignant neoplasms. It may be necessary in making a positive diagnosis to subject a portion of the involved structures to a microscopical examination, but, in my opinion, this is very seldom required, for the clinical history together with the microscopical appearance of the growth is all that is essential in the majority of cases to make a diagnosis. If, however, the disease involves the corporal mucous membrane you may be compelled to anaesthetize your patient, dilate the cervix and thoroughly scrape the uterine cavity, and submit the scrapings to a competent pathologist for examination. In these cases of cancer of the uterus pain is always a prominent symptom late in the disease, due to the fact that in a great many cases the uterus becomes filled with clotted blood and there is marked uterine spasms of contraction. It is also an intersting fact to note that these pains occur with a distinct periodicity, there being one in about every twenty-four hours and lasting for an hour or more until the patient is relieved by a hypodermic injection of morphia. Pain also occurs in the small of the back, hips, thighs, bladder and rectum from pressure. Patients presenting themselves with the symptom of hemorrhage after the menopause, even though it is very slight, are usually found, upon examination, to have cancer of the uterus.

I hope that I may be able to impress upon all the members of the Association the great importance of carefully examining patients with symptoms of cancer of the uterus and making a positive diagnosis. Dr. Kelly, of Baltimore, made a very happy suggestion on this line. He advised that every woman that has borne children should submit to pelvic examinations at intervals of every three or four months, and should also be educated by her family physician in regard to the symptoms that occur in this disease. We know that cervical tears are great etiological factors in the development of cancer of the cervix. The local erosions of the cervix seem to diminish the resistance at this point and invite the devel-

opment of epitheliomas. Hence, the importance of an operation to cure these abrasions and remedy these tears. I believe if cases of cancer of the uterus are diagnosed early, either in the cervix or body of the uterus, the disease being local at that time, can be cured by the total removal of the uterus and its appendages. On the contrary, if the disease is allowed to progress and goes beyond the walls of the uterus and is carried to the lymphatic glands around the illiac vessels, an operation will not cure any of these cases. It might relieve the symptoms of pain and hemorrhage and prolong the patient's life but, in my experience, they all recur.

It is a deplorable fact that in nine out of ten patients suffering from cancer of the uterus, when seen by the gynecologist or surgeon, the disease is too far advanced to effect a cure. I have seen within the last two or three years almost an average of two or three cases a month that were absolutely inoperable. Do not wait until the discharge in these cases is putrid and foul and cancer cachexia has developed. These symptoms are characteristic of cancer but when they develop it is too late to save your patient's life.

In regard to the treatment in this disease, I am more impressed today than ever before that a total hysterectomy should be done in every case where an early diagnosis of cancer of either the cervix or body of the uterus is made, and I prefer the abdominal route. It is often difficult to determine whether the disease has gone beyond the bounds of the uterus and the surgical procedure is governed by the extent and limitation of the diseased tissues. If the cancer alone is limited to the cervix and the body of the uterus a total hysterectomy will cure all of these cases. If, however, the disease has invaded the periuterine structure and the lymphatics of the pelvis have become involved, together with the walls of the vagina, a total hysterectomy, going well beyond the diseased tissues, removing the glands and the vaginal

structures involved, might relieve it so far as the pain, hemorrhage and discharge are concerned and the patient's life may be prolonged for a year or eighteen months, but in all of these cases, in my experience, the disease recurs and the operation proves only palliative. In cases where the uterus is fixed and the disease has invaded the rectum and bladder all that can be done is to curette the diseased surfaces with a sharp curette, cauterize with a Thermo cautery and you may stay the ravages of the disease, arrest the hemorrhage and by drainage the pent up pockets of pus and relieve temporarily the septic condition of your patient and prolong her life for a few weeks.

Now the object of this paper is not to advance any new ideas, theories or operative procedures, but an endeavor to impress upon the members of this Association the great importance of thoroughly investigating every case that presents a suspicious symptom of cancer of the uterus. Make an early diagnosis and educate your patient with the importance of consulting the family physician from time to time to see if these organs are in a healthy condition, and lay great stress upon the significance of prolonged menstrual periods and intermenstrual flows and the development of a flow after the menopause. The leucorrhoeal discharge and pain in the back, pelvis, thighs and lower abdomen should always be regarded with suspicion and investigated.

SERUM DIAGNOSIS OF SYPHILIS

W. R. Houston, M.D., Augusta, Ga.

The elaboration by Wassermann of a method of examining the blood serum by means of which we are able to determine with a high degree of accuracy the presence of syphilitic infection marks perhaps the most important advance in clinical medicine that has been made in decades. The importance of this discovery is readily apparent. It concerns not alone the venerial specialist, but the internist, the surgeon, the gynaecologist, the specialist in diseases of the eye, nose and throat. In short, it is of the highest value for the diagnosis and treatment in pathological conditions in every part of the human body. For, as Osler has aptly remarked, to know syphilis is to know medicine. There is no system of the body exempt from the manifestations of this disease. There are few pathological lesions into the differential diagnostic study of which the question of the presence or absence of syphilis does not enter as a factor.

The diagnosis of syphilis, moreover, is not merely a question of diagnosis. It is by no means a matter of purely curious or academic interest to know whether our patient is attainted of syphilis. It may perhaps be said with some justice of certain affections of the central nervous system for example, that it is of comparatively little importance to the well-fare of the patient that the physician should make a precise diagnosis. A precise recognition of the syphilitic nature of a lesion that presents itself is, however, of the utmost importance to our patient for the reason that we are dealing here with a disease which is exceptional in being highly amenable to specific treatment. Consequently, the life of our patient may depend on our prompt and vigorous therapeutic interventions.

The Serum Test plays a second very important role in its character as a therapeutic guide. For the great majority of cases, the diagnosis from a clinical standpoint presents no difficulties. The difficulty of the problem presenting itself to the therapeutist is as to when he is warranted in discontinuing treatment. As we all know, syphilis nowadays in the great majority of cases is a mild affection, so mild that the treatment itself is often more of a burden than the disease. The result most to be dreaded is not early explosive manifestations so much as the appearance of late changes in the organs weighty to life, changes which in a general way may be said to resemble a premature old age. When are we justified in discontinuing a treatment which is largely designed to prevent weakening of the defenses of the body, against the encroachment of old age? This question, the examining of the blood serum in some measure enables us to answer. We are not justified in abandoning treatment so long as the serum test remains positive. During the course of active mercurial medication a serum test that had at first appeared strongly positive will grow progressively weaker and finally disappear. If treatment is abandoned at this time, the reaction may again be found positive after a lapse of months, so that, unfortunately, one negative test does not prove that the invader is entirely expelled. We have in the test, however, a guide of very great value in directing the course and duration of our treatment, whereas, formerly, in the absence of active symptoms we had to follow what amounted to nothing more than a rule of thumb.

Being thus placed in the possession of a test that serves to indicate the efficacy of our therapeutic measures, we may confidently expect in the near future a considerable enrichment of our pharmacological resources against syphilis. Already in the possession of specific remedies of great value clinicians have hesitated in the presence of so grave a malady to experiment along new lines. The remarkable achievements of Ehrlich in chemo-

therapy as directed against trypanosome disease which is, like syphilis, a protozoan infection; his realization of what he terms a therapia sterilisans magna, or in other words the total destruction of all the invading organisms by a single dose of medicine; the encouraging reports that are beginning to come in of the rapid conversion of a positive luetic serum test into a negative through the employment of Ehrlich's latest arsenical combinations, all combine to arouse the hope that our treatment of syphilis may within the next few years become vastly more enlightened.

To one who has attempted to keep up even in part with the enormous literature that has accumulated in the past few years on the subject of the serum diagnosis of syphlis, it will at once appear how impossible it would be in the brief compass of this paper to discuss either the theoretical of the technical aspects of this question. The clearest exposition of the subject at present obtainable is to be found in a book published by Dr. Noguchi, of the Rockefeller Institute, in which he sets forth with great precision and clearness the theoretical and practical considerations involved in the original Wassermann test and of the various modifications of it that have been proposed. It would scarcely be possible to read Noguchi's book without being convinced of the superiorities of his modification of the Wassermann test in a matter both of delicacy and of simplicity. The chief advantages of Noguchi's method are to be found in the smaller amount of the patient's serum that must be obtained, in the employment of a suspension of human blood corpuscles instead of sheep's corpuscles, in the use of a fixed and known amount of amboceptor in the haemolytic system instead of a variable amount as in the original technique, and in the accuracy and stability of the antigen employed.

To those unfamiliar with the principles of the serum I may briefly say that the simplest way to a comprehension of it is through a consideration of the constitution of the haemolytic system. By haemolysis we mean the

dissolution of red blood cells through which they give up their haemoglobin to the medium in which they are suspended. Haemolysis, which is distinguished as inorganic haemolysis, takes place very quickly when red blood cells are placed in distilled water, the water soon becoming a transparent ruby red. If the cells be suspended in physiological salt solution, they will maintain their integrity indefinitely, the suspension appearing dull, cloudy, and opaque. Organic haemolysis can, however, bring about a dissolution of the cells. In the salt solution, however, a dissolution of the red cells may be accomplished by the process of organic haemolysis. For organic haemolysis there are requisite three factors constituting the so-called haemolytic system. First, the suspension of washed human corpuscles in salt solution. Second, a sort of ferment known as the complement, which is found in the blood serum of all animals, notably, in that of the guinea pig, which is the source of the complement used in laboratory experiments, and which is, like most ferments, destroyed by a temperature of fifty-six degrees. And third, a middle body, known as the amboceptor, which is necessary to bring about the action of the complement on the blood cells. This amboceptor is present in varying degrees in the blood of different animals, but in order to obtain it in sufficient concentration for the purposes of experiment, it is necessary to greatly increase the amount normally present in the animal's blood. This is accomplished by immunizing the animal against the blood corpuscles of another species. In Noguchi's method rabbits are injected with increasing doses of washed human blood corpuscles until the rabbits attain such a high immunization against the human corpuscles that the rabbit's serum contains an enormous number of anti-human amboceptors. That is to say that if we put into a test tube a suspension of human blood corpuscles, and a certain amount of complement derived from the serum of a guinea pig, we may, by adding a very minute quantity of the rabbit's serum employ the

amboceptors of the rabbits' serum to bring about the action of the complement on the blood corpuscles, and so there will result a speedy heamolysis in the blood suspension. This experiment is a very brilliant one and no special training is necessary in doing it to say whether haemolysis has or has not taken place.

Now, in the case of syphilis, and in other infectious diseases following the same biologic law, we have a similar system developed, consisting, like the haemolytic system, of three members, the complement, the specific amboceptor, and the toxic agent which induces immunity and is known as the antigen. When the factors of the haemolytic system have combined to induce haemolysis, we may think of them as having formed a stable chemical combination from which the individual factors can not be again recovered. From the syphilitic system, likewise, when the complement has once been united with the antigen through the intermediation of the amboceptor, we can not again recover the complement to employ it elsewhere. The principle of the test for the serum diagnosis of syphilis appears in the name given to it as the complement fixation test or the complement deviation test. Placing in a test tube the syphilitic antigen, the serum of a syphilitic patient containing the syphilitic amboceptor, and adding a certain amount of complement, the complement will be bound in a stable combination. If, however, the syphilitic amboceptor be not present, or, in other words, if the patient is not infected with syphilis, the complement will remain free, there being present no amboceptor to anchor it. Should we then add to blood suspension and amboceptor of our heamolytic system, the free complement would be taken up by the haemolytic amboceptor and haemolysis will result. Thus we are able to demonstrate whether syphilis is present, by demonstrating whether the complement has been fixed in the syphilitic system or is left free still to do the work of haemolysis.

Such were the theoretical considerations that led to the discovery of the serum diagnosis of syphilis. Unfortunately for the theoretical perfection of this chain of reasoning, laboratory experimentation has led to the breaking of one of its most important links, to obtain the syphilitic antigen, the poisonous matter that led to the formation of anti-syphilitic bodies according to our present views of immunity, Wassermann prepared an extract from the liver of still-born syphilitic infants. This extract served admirably the purposes of a specific antigen, but it was found that other organ extracts made up without any reference to the presence of syphilis served in-vitro equally well as antigen in it. An extract could be made from the heart of a guinea pig or from the liver of an ox that would act as the antigen in the actual conduct of the test. Thus it was shown that the reaction was not specific. This discovery has not, however, invalidated the clinical value of the test. While we can no longer look on the syphilitic system, as being an immunity reaction analogous to that seen in the haemolytic system, so far as the practical results are concerned, the reaction is diagnostic of syphilis and is to be thought of as being characteristic rather than specific. The tendency is now to think that the combination of some substance in luetic serum with the lipoid substances of the organ extract produce a destruction or precipitation of the complement.

It was Noguchi's hope in publishing his modified technique of the Wassermann test that he had so far simplified it as to render the test applicable in the working laboratory of every physician. So far as we can see ,this hope seems little likely to be realized. The technical difficulties are still not inconsiderable. An abundance of time and considerable laboratory experience is necessary to the proper carrying out of the test.

I wish that it were possible in the limited space alloted me to discuss some of the interesting clinical problems which the application of this test has brought to solu-

tion, the demonstrations that a supposed chancre of the lip was non-specific in character, subsequent microscopical examination proving it to have been an epithelioma, the exposition of a series of miscarriages as being due to an unhealed luetic state in the father, and many others. From the many thousands of tests that have been made in the clinics of America and Europe, the fact stands forth very clearly that given a definite luetic history, the probability of getting a positive test stands in direct ratio to the duration and thoroughness of the treatment. It is certainly a great benefit that we confer on any patient to be able to assure him that the spectres of tabes and paresis no longer hover over him, that vague pains occurring here or there no longer are to be regarded as significant of a specific aortitis or hepatitis, that he may become a progenitor of untainted off-spring. It is, perhaps, an even greater benefit to be sure of our ground in insisting that he by no means remit in his efforts to be cured until the taint can be shown to be finally absent from his blood. My purpose in writing this short paper has been less with the idea of being able to offer an exposition of so difficult and extensive a problem than with the hope of calling your attention to its very great importance.

THE VALUE OF GONOCOCCIC VACCINES IN THE TREATMENT OF GONORRHEAL ARTHRITIS.

W. L. Champion, M.D., Atlanta, Ga.

This will be a short paper to give the results obtained in my private work from the use of gonococcic "Vaccine" or "Bacterin." Before the introduction of the vaccine and serum there was not a drug to be relied upon to cure or I might say benefit a patient with gonorrheal rheumatism, so I hailed with delight this new remedy when I noticed the favorable reports from its use. The invasion of the joints and muscles by the gonococcus is one of the most serious complications that follows an attack of gonorrhea. It is not unusual to see a patient confined to his bed for weeks and months and his joints permanently ankylosed.

I recall the case of a young man I treated several years ago who was rendered helpless for three months by the involvement of a knee, ankle, toe, elbow, wrist and finger joints, and finally it was necessary to open and drain the knee to make it useful. Such results I have seen before the introduction of gonococcic vaccine and antigonococcic serum. Since I began the use of these remedies I have had a number of patients to suddenly develop rheumatism of a single joint with severe pain, swelling, temperature reach 101 to 103, and a single injection of the vaccine make the patient comfortable in a few hours, and five or six injections perfect a cure.

The above results with the vaccine have convinced me that it is a specific in accute gonorrheal rheumatism. While the percentage of gonococcics that develop this complication is apparently small, I am convinced if we will listen attentively to the complaints made by these patients, of pains and soreness located in various muscles

and joints, we will be convinced it is more frequent than stated. The attack may be of a mild form, lasting only a few days; the patient and doctor attributing the condition to cold or other causes when nature comes to the rescue, and the fact that gonorrheal poison has entered the circulation from the deep urethra, prostate or vesicles, is never recorded.

My work is confined almost exclusively to the male side of the human family, but of the few women I have treated with gonorrhea, I have not recorded a single case of gonorrheal rheumatism. This may be accounted for from the fact that the female has no prostate, as every case I have seen in the male the prostate was involved. The prostate seems to be open to engagements to send the septic material it contains through the general circulation.

During the past twenty months I have treated eleven typical cases of gonorrheal rheumatism with Mulford's gonococcic vaccine. All of the patients had severe pain, redness, swelling of the joint, elevation of temperature and rapid pulse. It is very noticeable that the pulse is rapid; out of proportion to the temperature, and remains rapid after the temperature returns to normal. In all of these cases the vaccine was used in the beginning of the complication, and had not been used previously. None of the patients had other joints to become involved after beginning the use of the vaccine.

Ten of the patients were under thirty years of age, the other one forty. Of the eleven cases three had a single joint involved; two had both knees; one the right foot, and the other five had three to four joints involved. Only two of the eleven cases were confined to bed; one for six days and the other for ten. In every case there was marked improvement from the first dose of the vaccine.

The dose I commence with is 25,000,000 bacteria, giving 50,000,000 on the third day, and a similar dose every four days thereafter.

In conculsion I would urge the use of the vaccine as soon as there is the slightest evidence of rheumatism developing, as it will shorten the course of the disease and lessen the number of joints involved.

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SOME REMARKS ON FLATULENCE.

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Flatulence is a broad term, covering any excessive collection of gases in the gastro-intestinal tract, and its annoying or even dangerous consequences are common in the observation of every medical practitioner.

A certain amount of gas is normally present in the stomach and intestines, being made up of gases derived from the blood, from fermentative processes, from hydrolysis of different nutritive elements, and from atmospheric air swallowed with or without the food.

The gases present are quite numerous, those in the stomach consisting principally of oxygen and nitrogen, most of which are swallowed with the ingesta; carbon dioxide, ammonia and other gases contained in solid foods, beverages, carbonated waters, etc.; and gases produced within the stomach by fermentation, either before there is any free HCl, or where this acid is deficient. Besides the gases mentioned, under certain pathologic conditions such a carcinoma, abscess of the stomach wall, or decided stagnation of stomach contents, there may be also found sulphuretted hydrogen and marsh gas.

In the intestines oxygen is quickly absorbed, the large intestine being practically free from it. The carbon dioxide there is generally derived from the blood. Some of the intestinal gas comes directly from the stomach, but the greater part arises from fermentation, bacterial decomposition, and chemical decomposition occurring in the intermediate metabolism of the proteins, carbohydrates and fats. Naturally, therefore, the production of gas is greatest in the upper part of the small intestine, while, in the absence of excessive peristalsis, there is little in the lower part, and still less in the large intestine.

In some forms of irritative diarrhoea the fecal current is so hastened, that the fermentative process is about the same throughout the whole intestinal canal.

In the opinion of the writer a great proportion of stomach and intestinal flatus is **swallowed atmospheric air**—much greater than is usually credited to this source. This condition is designated **aerophagia,** and is generally found in nervous or hysterical persons.

Incidentally it might be of interest to mention that this habit is not confined to the human race, but is occasionally acquired by horses, these equine freaks being called "stump suckers."

Often the individual swallows air unconsciously but constantly, while the eructations are frequent, noisy, and sometimes so explosive that they reverberate almost like small artillery.

An important point right here is the fact that in aerophagia the accumulation seems to bear little relation to the food ingested; neither is there much odor to the eructations or the gas expelled from the anus. Little of this swallowed air, however, gets into the intestines, as most of it escapes back through the cardiac opening.

It has been though that the bulk of the intestinal gas made its way to the rectum, and was ejected therefrom, but it is asserted by Dr. Semour Basch and others that, in healthy individuals, half or perhaps much more is absorbed into the blood, later on escaping through the respiratory tract. This accounts for the fact that, while normally there is at all times some fermentation going on in the intestinal tract, the gaseous tension remains about the same in the absence of either eructation or expulsion by the anus.

Excessive flatulence is frequently present in catarrhal inflamation of the intestinal mucosa, peritonitis, and in conditions of functional weakness of the bowel walls.

Where there is inability to remove these accumlations, either from some obstruction, or lack of tonicity in the

muscular fibers, it may quickly develop into a serious complication.

Idiosyncrasy often plays an important role in flatulence, for many people find that the ingestion of some particular article is quickly followed by a lively formation of gas. Milk and different forms of the sweets are frequently noted as offenders in this respect.

Locally the accumulation of gas may simulate various tumors, the diagnosis of which sometimes leads the unwary physician into embassing predicaments.

Recently, as related to the writer, a solemn conclave of surgeons, nurses, etc., gathered to remove a tumor from the abdomen of a rather prominent ward politician. Their surprise and chagrin may be imagined, when, under the anesthetic, the tumor completely and absolutely disappeared.

Such incidents do not add fresh laurels to the brow of the ambitious desciple of Aesculapius.

The symptoms of flatulence, apart from the distension which varies markedly, may be colicky pains, and discomfort due to the resentment of other organs at being impinged on or displaced by the enlarged stomach or intestines. Great accumulations of gas may cause extreme manifestations of both respiratory and cardiac interference.

Another symptom is borborygmus, where the flatus gurgles around, and races up and down the itestinal canal almost like a thing of life, producing wierd sounds disconcerting to both patient and listeners.

The writer well remembers how, as a small lad in Sunday school, his attention was frequently divided between the words of admonition falling from the teacher's lips and the turbulent sounds of disquietude issuing from the teacher's abdomen.

It might be said too, that the physician who relieves a sensitive woman of this symptom will win her lasting gratitude.

The treatment may be hygienic, medicinal, dietetic, or suggestive and generally a combination of all will be needed.

Surgical interference, where the flatulence is due to decided obstruction, will not be entered into in this brief presentation of the subject.

Any mode of life which will tone up the muscular system will exert a beneficient effect on the musculature of the gastro-intestinal tract, and frequently open air exercise, and sane habits of living will bring about a speedy disappearance of the flatulence.

The various carminatives, such as peppermint, chloroform, compound spirits of ether, asafetida, turpentine, etc., seem to have some effect, either by aiding in the absorption of the gas, or by promoting relaxation of the different valvular orifices, thereby permitting its escape.

In organic gastric diseases, where ulceration or stagnation of stomach contents is present, special therapeutic methods would be indicated, hardly within the purview of this paper to describe.

Where the HCl is absent or markedly diminished, small doses of the dilute acid with nux vomica, half an hour after meals and repeated several times, if necessary, will generally relieve gastric flatulence.

In conditions of hyperchlorhydria, or fermentation due to excess of organic acids, calcined magnesia, salicylate, carbonate, or milk of magnesia, bicarbonate of soda, or willow charcoal, to which may be added two to five grains of resorcin to a dose, will nearly always prove efficacious.

Where the flatulence is principally in the intestines, resorcin, ichthyol or salol, alone or in combination with other medicaments, will be found useful, but they should be given two to four hours after meals, so as to speedily get into the intestines with the residue of a meal from a nearly emptied stomach.

The following is a good combination:

R—

Ichthyol .....dr. i.

Takadiastase .....dr iss.

Ext. nucis vom.....gr vi.

Pv althaea .....q. s.

Misce et ft. cap. 30.

Sig.—1 capsule 2½ to 3 hours P. C.

The bowels should, of course, be kept freely open, reducing the inevitable intestinal fermentation to a minimum.

By intelligent dietetic measures much may be accomplished, as the nature and quantity of the gases generated will, to a great extent, be governed by what is eaten and how it is eaten.

The individual idiosyncrasies should be investigated, and suspected gas-forming articles tried out. Milk and buttermilk cause painful flatulence in many people, while eggs are generally under suspicion, unless known to be fresh. Boas particularly stresses the blood content of meat, as nothing in his opinion is so prone to set up putrid decomposition as blood. Roast or boiled beef or mutton may be avoided for awhile, and when allowed should be thoroughly done.

The different foods may be tested, but sugar, dextrinated flours, wheat- or rye-bread, rice, Irish potaoes, or nuts finely chewed may be well tolerated. Meat broths and poultry are generally admissible. Soft drinks and carbonated waters should be strictly tabooed. The food should be well chewed, and deliberated swallowed, so as not to force a lot of air down the esophagus with each bolus, like the piston of an air pump.

The lips should be closed during mastication, and fragmentary bits of conversation while the mouth is full of food should be avoided, as a violation of both esthetic and dietetic amenities, to say nothing of the danger of lapsing into aerophagia.

In nervous, hypochondriacal or hysterical individuals much can be accomplished by suggestion, especially where most of the flatus is atmospheric air.

Dr. Vanderhoof, of Richmond, recently contributed an excellent study along this line, in which he cited some striking instances of the efficacy of mental suggestion.

As far back as 1884 Tacke, of Berlin, proved that in rabbits ten to twenty times as much of the intestinal gases escaped through the lungs as through the anus, so it may be reasonably inferred that in the human race the ratio is somewhat similar.

These patients, therefore, should be instructed how to eat, and admonished to be careful in swallowing, suppressing as far as possible noisy eructations. They must be informed that certain fermentative processes in the intestines are both normal and salutary, and that practically all of the uncomfortable flatus will be removed by absorption, if they will only calm themselves, and not snort like a herd of grampuses, in all-advised efforts to expell it, thereby setting their nerves on edge, and disturbing the equilibrium of the other organs.

The writer was recently consulted by a middle-aged maiden lady, a teacher in a college, intelligent and cultured, who complained that, on retiring, she felt an accumulation of gas in her stomach, which would permit no peace nor rest until by some means she got rid of it. She would engage in different forms of gymnastics, sometimes spending as much as two hours endeavoring to free herself from this intangible incubus.

A prescription of HCl and nux vomica, with a thorough explanation of the underlying causes of this flatus, coupled with suggestions as already indicated, gave her speedy relief, much to her gratification.

The far-reaching influence of the emotions over each digestive process is becoming more and more appreciated with each passing year, and in few disturbances can more prompt and happy results be reached by well considered

psycho-therapy than in these numerous cases of flatulence both acute and chronic.

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DISCUSSION

Dr. Wesley Taylor, Atlanta: I wish to emphasize the fact that aerophagia is much more common than the casual observer believes; I have noticed it myself often. I have observed it so often that when I meet with a patient who has excessive flatulency, especially if she is a female, I always call attention to the possibility of air swallowing, and I have found that this has enabled me to relieve numerous patients, or at least to ameliorate their condition and to make them more comfortable. I remember well a case seen in consultation; this patient had been in the hands of three different surgeons, and in one instance an anaesthetic was employed, but the condition which was to be sought for and removed surgically suddenly disappeaded and the operation was postponed I remember two other instances in which the patients were operated on for peritonitis, and the surgeons were very much confused when no peritonitis was found.

I remember well one case that was somewhat confusing, and in which there was an extreme abdominal distension with pain. This patient was a woman, and very hysterical. The distension was so marked that she appeared as though she was pregnant to full term. She had nausea, some vomiting, was unable to eat, she had a very rapid heart action, and had a slight degree of temperature, 100.5 or 100 degrees F. A diagnosis of peritonitis was made. I had seen this condition before but not so marked. I noticed the patient swallowed air The treatment of this patient consisted in isolation, removing her from her sympathetic friends, restricting her diet to liquids, and the hypodermic injection of apomorphine; this treatment produced a wonderful change, and in thirty-six hours she was relieved of this distress-

ing condition. These patients should have their attention called to the possibility of their swallowing air and then they can help themselves very much. The result of the above treatment are truly remarkable, especially in hysterical females.

Dr. Jones, Atlanta: I should like to ask Dr. Niles if the gases taken up by the blood will cause or produce offensive breaths.

Dr. V. D. Lockhart, Mayesville: I am very much interested in this form of indigestion as it may be termed. Since I have come to examine patients more carefully, I find a large number of them suffering from an accumulation of gas in the bowels. I have come now to make a practice of going over my patients that I am called upon to treat and especially for digestive troubles almost every day for the purpose of detecting whether or not they have any intestinal collections of gas. If I find accumulations of gas in the intestines, then I try to determine its origin, or the origin of the fermentation, or other cause of the gas formation. I really must say that I do not know what does cause the formation of the gas in most of the cases. But this is a common trouble which is due to fermentative changes that occur after the food has passed the stomach and gone down further, reaching the alkaline contents of the intestines, with resulting fermentation and gas formation. I find that in these cases the breath has an offensive odor. The pain in most cases seems to result from the absorption of the gas or from the formation of some toxic matter. It seems to me that most of us in our daily work would do well if we looked more often for the presence of this gas; I am more and more impressed with the need of more careful examinations and care in looking for the origin of the gas. I am led to believe that charcoal, magnesia, nux vomica, etc., are fine remedies for this condition and relieve at least a part of the symptoms these patients complain of.

Dr. Geo. M. Niles, Atlanta (closing the discussion) · As to the offiensive odor of the breath I am not qualified to answer what the cause is; but as a rule one will find that these patients with flatulency have other conditions as well which have an influence upon the breath and made it bad. But I hardly think that any actual absorption of the gas in the intestine, its passage into the blood by which it is taken to the lungs to be eliminated, I hardly think that would give rise to much of an odor. In its passage this way from the intestines to the lungs I believe would do away with any odor.

I appreciate very much the kind discussion that has been accorded my paper.

HEREDITY AS AN ETIOLOGICAL FACTOR IN INSANITY.

R. C. Swint, M.D., Milledgeville, Ga.

This subject has been written about time and again, but I think it opportune for it to be brought before this body for consideration. I do not come with any newly discovered theories with which to startle you, but to present a touching review of some theories of heredity as related to insanity and give some facts that demand attention and action.

Mercier, that prince of English writers on this and kindred subjects, aptly stated, when he said that insanity was, mathematically speaking, a function of two variables: viz., Heredity and Stress.

When Gregor Jahann Mendel, in 1865, enunciated the law known by his name, the secret of the discovery which has made that name so famous was revealed to him as the result of very numerous, but carefully planned experiments upon plants grown in his cloister garden. There might be an object lesson gained from that biological inquiry of the laws relating to plants that is applicable to the human race. Ever since the publication of "the origin of species" modern thought has been profoundly influenced by Darwin's teachings that new species come into existence through the operation of selection acting upon continuous, minute fluctuating variations through the "survival of the fittest."

When we come to heritage in mental disease, the inherent difficulties of the theme are only too manifest. It is not the insanity that is transmitted, but the psychopathic basis out of which the insanity is evolved. Similarly, it is true for Epilepsy, Chorea, Hysteria,, Inebriety and similar neuroses. A parallel is found in

tuberculosis for instance. But here we observe that we are not dealing with any simple factor to which Mendelian principles can be readily applied, but with an enormously complex affair which still awaits analysis.

The laws of heredity are two, viz:

The law of inheritance and the law of sanguinity. The law of inheritance is that the offspring tends to inherit every attribute of the parents and will do so, unless some counteracting influence appear. Of course, there are cases in which attributes of parents do not appear in the offspring, but these are not exceptions to the law.

The laws of nature knows no exceptions and when apparent exceptions occur, it is either because the laws are acting in ways not understood or through the counteraction of other laws. That the law is true of the general and broad outlines of structure and function as universally accepted is indeed a truism. "Do men gather grapes of thorns or figs of thistles?" "Even so every good tree bringeth forth good fruit." The law is sanguinity may be summarized as follows: The more dissimilar up to a certain point, parents are, the stronger and better the offspring, but individuals whose constitutions and temperaments are alike will either have no children or degenerate children.

The stability or instability of a person's highest nervous arangements depends primarily and chiefly upon inheritance. Every man is the outcome and the product of his ancestry. Doubtless every individual is to some extent moulded into conformity with circumstances by the influence of environments upon him; but the small amount of new character that environments can produce in any individual, in comparison with the characters transmitted to him by his ancestry, may be gathered from the length of time that circumstances of environments can act upon him, in comparison with the aggregate length of time during which the long line of his ancestry has been subject to modification by environments.

We are all familiar and know of practical examples of an inherited peculiarity in gait, gesture and general bearing. It is true also, that there are family similarities in handwriting as strong and as frequent family similarities of features, and this is important since a peculiarity of handwriting depends upon an arrangement of nerve-tissue that must be extremely delicate, elaborate, subtile, diffuse and yet precise. In comparison with such a quality of nervous arrangement the peculiarity of tissue organization, which underlies insanity, is gross indeed, and if one is true, we may be quite sure of the other.

SOME STATISTICS.

Owing to the meagre and incomplete histories furnished authorities of State Hospitals, it is impossible to justly estimate the percentage of admissions with hereditary taints. The very nature of the inquiry makes it difficult to obtain the desired information. In the first place, the recorder of the histories of patients frequently neglects to extend his inquiry far enough to include all the transmissible psycho-neuroses. Secondly, the relatives of patients are prone to conceal any hereditary taint in the family. For instance, a table prepared by the lunacy commissioners, showing the causes of insanity in 136,478 admissions to the asylums in England and Wales, estimate the hereditary influence at 20.5 per cent. The admissions to the Georgia State Sanitarium for the past year were 972 including the colored race, and according to the histories furnished by the commitment 16.36 per cent. of them gave a history of direct hereditary taint. Now these histories are filled out with only one end in view, and that is to have the patient admitted to the sanitarium. The scientific value of the answers to questions asked on blanks furnished to the Ordinaries of the different counties is never thought of, even when filled out by the family physician, and it is

requested that the family physician fill them out whenever practicable. The answers to some of the questions are sometimes almost ludicrous. Hence the incorrectness of such a low estimate. It is difficult to get any information of value through correspondence, and relatives to some of the patients we never see. Taking the statistics of the New York State Hospitals for the fiscal year from October 1, 1907, to September 30, 1908, it is seen that 76.2 per cent. of all admissions were considered to have "normal" mental constitution, of these patients 29.4 per cent. gave a history of insane heredity. The mental constitution of 20 per cent. of the admissions was "inferior" and of this number 37.7 per cent. gave a history of insane heredity. Patients with a "defective" constitution, a class that we wish to emphasize, made up 3.8 per cent. of all admissions and gave a history of insane heredity in 44.8 per cent. These estimates are based on admissions of 5301 patients, of which 2791 were men and 2510 were women.

Those of us that have given this matter any study know that these estimates are too small. J. Ragues De-Fursac, a French alienist and author, states that a "congenital predisposition exist in about two-thirds of the insane." For that group of psychosts, known as Dementia Praecox, he estimates that 50 per cent. of them give a history of hereditary taint Kraepelin, that peer of workers of modern psychiatry who has done more than any other man of modern times toward grouping into true clinical entities, from a prognostic view, the different forms of psychoses from the symptom-complexes, is of the opinion that 70 per cent. of these cases have a hereditary taint.

Diefendorf estimates that this form of psychosis comprises from 14 percent. to 30 per cent .of all admissions to insane institutions. Take the Manic-Depressive group and it is estimated by good authority that is comprises from 12 per cent. to 20 per cent. of all admissions to Insane Hospitals, and it is computed that 70 per cent.

to 80 per cent. of these give a history of hereditary taint Diefendorf states that defective heredity is the most important etilogical factor in this group. Take the Epileptic group and it is estimated that there is a hereditary taint in 87 per cent. of cases. Of the constitutional psycho-pathic states estimates vary from 70 per cent. to 80 per cent. of hereditary taints.

Mendel says that "among the predisposing factors of insanity, the hereditary basis has by far the greatest significance."

Berkley states that " heredity is by far the most important factor with which to deal in the consideration of the pathology of the main types of insanity. Its influence may be recognized in divergencies from the normal in the structure of the brain convolutions or in the very numerous abnormalities that may be noted in every day findings in the cerebral vessels of those dying insane." He also states that from 60 per cent. to 70 per cent. of all forms of mental disease give a history of hereditary taint. These facts alone are enough to warrant us in believing that heredity is the most important factor in the etiology of insanity.

The population of the Georgia State Sanitarium for the fiscal year 1890 was 1510. There was admitted during that year 403 patients. The population of the Sanitarium for the fiscal year ending December 31, 1908, was 3112, and there were admitted during that year 947 patients. We see from these figures an increase of over 100 per cent. in population and annual admissions. If some prophylactics are not adopted. what will be the figures twenty years hence?

THE REMEDY.

Gentlemen, we as a body of physicians must realize these facts and use our influence for the adoption of remedial measures. When we come to the actual study of the annual increase in the admissions to the different

State Hospitals, we readily realize that its importance is not secondary to the employment of prophylactic measures in the prevention of contagious and infectious diseases. We are duty bound by the very nature of our professions to realize and recognize these facts, and the laity are looking to us for measures of some kind.

The strength of a state or nation is measured by the health, both mental and physical of its inhabitants. If we would pay as much attention to the mating in marriage of our sons and daughters, that we do to the breeding of our stock and poultry, I am sure that we would be amply rewarded.

I think we should go down on record as favoring the enactment of a law requiring all applicants for marriage license to present a health certificate from his family physician, or one duly authorized to issue same, certifying that said applicant was not afflicted with any transmissible disease, furthermore, said certificate should be filled in the Ordinary's office for future reference.

There should also be enacted a law to make sterile every defective or degenerate, as we readily realize that this class of cases are hopelesly incurable, and they furnish the largest per cent. of hereditary taints. This sterilization can be accomplished by means of the simple operation of vasectomy in the male and salpingectomy in the female. Some of the states are already moving forward along this line.

Dr. H. C. Sharp, of Indianapolis, in an article entitled, "Vasectomy as a means of preventing procreation in defectives," read in the section of preventive medicine at the last meeting of the American Medical Association, stated "that the disposition to permit all classes to procreate without restriction has brought about interesting satistics in Indiana. The cost for maintaining the state institutions including the poor and orphan asylums was $1,201,461.24 for the year 1890. While for the year 1908 it was $2,443,140.55, an increase of over 100 per cent.

That he had observed 500 males that he had performed vasectomy on with no untoward effects, but rather beneficial.

In view of the above stated facts, shall it be said that the Empire State of the South will lag behind in such matters of so great an import? I trow not. It is an easy matter to create a wide-spreading interest in anything when some Millionaire Philanthropist donates his millions in its interest. Let us not wait for that. Gentlemen, we live in an age of swift moving events; discoveries and inventions have been made, the consummation of dreamers for ages.

I am no septuaguenarian nor phophet, but I am convinced that we will have no subject brought before us of greater importance, that so affects the individual as well as the commonwealth.

These suggested remedies are not ideal, and of course, will not find favor with idealist and sentimentalist, but we know of nothing better for the present, and they are a step in the right direction, and I am sure would produce results, "after a time,' until there is found something better.

Gentlemen, let us be up and doing so that coming generations will be blessed.

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DISCUSSION

Dr. Wesley Taylor, Atlanta: While our ideas about vasectomy or sterilizing these people strikes one as being very radical, there is much truth in what has been said regarding it; this procedure has been applied in numerous places and the results have been good. There is one thing, however, that has not been mentioned and which seems to be applicable in cases of this kind, sterilization by means of the x-ray; this method I believe to be both practical and feasible. It might be argued that sterilization by means of the x-ray is not permanent; this question I have heard debated; but I firmly believe that if the sterilization be thoroughly done by the x-ray, the tissues that form the spermatazoas will be destroyed or so altered that they will not return to their normal condition and again reproduce the essential male element. I believe that thorough sterilization by means of the x-ray is practical, although there may be some who do not agree with me. The procedure is easy and a good one; in most cases, especially in females, it is very applicable and does not create much distress. This is a means well worthy of consideration.

Dr. E. Bates Block, Atlanta: I have been very much interested in Dr. Swint's paper, but I think there has been some discrepancy in his statistics in regard to the hereditary taint and this is due to faulty methods of investigation and to the kind of facilities that are offered the investigators. When one merely asks whether there is any hereditary or nervous disease in a family, the members of that family will promptly answer, "No." When you ask about an individual in the family, if you

ask the mother, the father, the sister, the brother, the aunt you will often find that you cannot obtain a true history of heredity; you cannot get such a history by merely asking questions of them.

A few weeks ago a boy was brought to me; he was a mental case. His sister informed me that there never had been anything like it in the family; there was no history of heredity or of nervous disease in the family, so the sister informed me. Subsequently, I met the mother and found that, although living with the family, she was insane. I also found that there was a brother insane as well; not only was he insane, but he had died in an insane condition.

Therefore, statistics formed from the mere statements of members of the family are very misleading and unreliable. The statements made by friends of the family are far more trustworthy and valuable than statements made by members of the family.

With regard to sterilizing these people, I think it is a good idea; this should be adopted, but you cannot force it upon the public; it is not a procedure the public will stand for. No member of a family wishes to have another member sterilized, and it certainly would be very difficult to get any authority from legislature to do such an act. It would be almost impossible to get a measure through.

With regard to the x-ray, if you examine the semen of those men who have been exposed to its influence, you will find the spermatazoa have been killed; they have merely been killed, and do not possess motility. But later on the motility of other spermatazoa appears not to be diminished. I have never seen a case which has been exposed to the influence of the x-rays for any great length of time.

Dr. Kime, Atlanta: Is the condition referred to heritary or transmitted? This brings up the question of methods for the regulation of marriage, and what diseased conditions that heredity predisposes to should be

included. This brings up questions that are very important, and perhaps more than any other, the question of criminality. The question of criminality is as important as is the question of insanity. A confirmed criminal who marries and intends to propagate his own species is a menace to the entire country.

There is another thing that should be considered with care; every man upon whom vasectomy has been performed, and is turned out into the world will encourage immorality because intercouse with such an individual is not attended with any danger of the women becoming pregnant. I think this is an important point that should be carefully considered before any active steps are taken along this line of punishment.

Dr. R. C. Swint, Milledgeville, (closing the discussion): I think the questions raised are all very important. It is almost impossible, in fact it is impossible, to find any ideal remedy for the condition, but what I have suggested is the best remedy that I have been able to find. So far as the operation is concerned, it is very simple and not attended with any danger. It can be done without an anaesthetic.

So far as turning a man loose on the country and allowing him to have sexual intercourse here and there, that is far better than to turn him loose without such an operation and leave him to propagate his species of helpless defectives; they in turn will beget others.

I thank the gentlemen for their kind reception of my paper and for the discussion that it has produced.

PUERPERAL ECLAMPSIA.

H. A. Mobley, M.D., Vienna, Ga.

In this short paper I shall not attempt to discuss this formidable condition in other than from a purely practical standpoint, striving to deal with it as we are called upon to handle it in the sickroom.

Furthermore, I shall describe it as it has appeared to me in the years I have come in contact with my share of this, one of the most trying complications of the puerperium.

Much discussion has been engaged in as to the real cause of this malady, if such it may be termed and oftttimes the argument has drifted into laboratory channels and out of sight of the general practitioner. So I shall content myself with stating the opinions that have become my own after experience and such study as I could make have been applied to it.

Albuminuria seems to me to be the underlying cause, with perhaps other excrementitious substances in the blood that the kidneys should have borne away. In addition we usually find the portal circulation extremely torpid and sluggish. These conditions are also exagerated in some instances by the presence of constipation. Add to this, the high tension to which the nervous system is keyed during the latter months of pregnancy, and we need not be surprised at the development of some form of violent symptoms.

My experience and surprise has been that convulsions failed to appear in many cases in which all the premonitory symptoms existed.

For this reason, viz: That eclampsia failed to manifest itself during labor in so many cases where albuminuria existed, some doubt that it (albuminuria) is the principal factor in the etiology of this disease. We

think, however, this ground not safely tenable, and prefer to believe that while the same diseased condition may be present in a given number of patients, in some the eclampsia does not materialize. Usually we have a strong nervous system to thank for its absence.

In truth, eclampsia is not a disease only in so far as convulsions indicate the presence of some toxemia manifesting itself in this way. Convulsions from whatever cause are not dignified as diseases in any other condition, and why should they be in this of pernicious albuminuria of pregnancy.

We find, broadly speaking, two classes of these patients, viz.: one in which there is extreme plethora; the other, characterized by symptoms of marked anemia. In the former, the blood is rich, the woman usually fleshy, while the capillary circulation seems loaded to its utmost capacity. In the latter, the blood is of poor quality, even though the pressure may be high, the skin is pale, the face and extremities dropsical, and altogether the patient presents a picture of deep anxiety and extreme physical discomfort. Not so marked a headache, but a peculiar "fullness of the head with ringing in the ears" as the patient expresses it, black spots, blindness, dizziness, and a sense of uneasiness which forbodes impending danger. Even then the convulsions sometimes fail to appear, and upon conclusion of labor, we draw an easy breath and thank our star for one more deliverance. When the patient, however, suddenly opens her eyes wide and stares vacantly into space, you may know of a truth that a volcano is about to erupt, and before you can do more the eyes roll upward till the cornea practically disappears, the muscles contract, the breath comes in gasps till it ceases to be inhaled altogether.

At this stage the eclampsia rises in degree to the importance of being termed a disease, for be the cause whatever it may, the responsibility devolves upon the attending physician to control the convulsions, and give

the unfortunate woman safe conduct to the end of labor, after which in the majority of cases nature comes to the rescue and contributes in large part to the production of good results.

In discussing the eclampsia occurring during labor, we lay down the proposition that labor precipitates the attack, and that the sooner it terminates, the easier the convulsions will be controlled. For this reason chloroform inhalation becomes a powerful agent in both relieving the muscular spasm and faciliating labor.

It has been my custom for some years to give upon the appearance of the first convulsion, a hypodermic of six to fifteen drops of veratrum viride, also if nervousness is a marked symptom, one-fourth grain puncture of morph sulp. The exhibition of veratrum has given me excellent results, and has never been productive of any untoward symptoms. Earlier in a given case, or even in the intermission between the paroxysms if the patient can swallow, fifteen grains of chloral hydrate I have also found helpful. I think, however, that veratrum viride is more dependable by reason that it is given by puncture, thereby getting its effect promptly, and also can be used when the powers of deglutition have been destroyed.

In the plethoric variety, the withdrawal of one-half to one pint of blood from the arm will in many instances relieve the extreme pressure always present, defer if not prevent the next approaching paroxysm, and by consequent relaxation facilitate labor.

Preparatory treatment for labor, or prevention of the eclampsia I deem of more vital importance when the patient is already under the care of a physician, which unfortunately for all concerned is not always the case.

A cholagogue cathartic followed with epsom salts thoroughly flushing the alimentary tract, coupled with the use of dieuretics to encourage the healthy action of the kidneys, are advisable. In other words, eliminate through all avenues and keep it up if necessary. Chloro-

form in fifteen to twenty dorps doses three of four times daily has proven itself of so much value that it is used as a regular preparatory treatment by many.

I heartily endorse the use of this remedy, but prefer not to prescribe it regularly for too long a period. I believe the late Dr. A. W. Griggs, of Westpoint, was the first to call attention to the application of this remedy in albuminuria of pregnancy.

A light nutritious diet, drinking plenty of water and taking active outdoor exercise meet the other requirements in carrying out what I regard as the most satisfactory prophylactic treatment.

THE DIAGNOSIS AND TREATMENT OF INTESTINAL PERFORATIONS WITH REPORT OF TWO SUCCESSFUL CASES.

W. Whatley Battey, Jr., M.D., Augusta, Ga.

In discussing "Intestinal Perforation," I wish to confine myself to that variety occurring during the course of typhoid fever and that produced by abdominal contusions (contre coup) without evidence of external injury of abdominal wall.

The typhoid variety occurs, as a rule, between end of second and fourth week. While distention and hemorrhage favor perforation, it often occurs when such conditions do not exist, and it may occur when least expected. Ambulatory cases apparently improving, end disastrously in perforation.

The most evident symptoms are pain, rigidity, drop in temperature, increased pulse rate and anxious expression. Without a doubt the pain is the most prominent early symptom which should attract our careful attention and consideration. To observe any one or all symptoms of perforation it is absolutely necessary that we should follow our typhoid cases with the greatest care from the moment of the infection until patient is discharged, as cured. A systematic careful daily examination of abdomen should be made, and in all cases the daily changes noted. Some patients have more pain than others during the disease, but the one attack of cutting boring pain of sudden onset, followed by other symptoms mentioned, clinches the diagnosis.

In typhoid cases when there is no delirium, when the symptoms of perforation present themselves, we are enabled to elicit much valuable information from the pa-

tient, but in cases where there is delirium, our diagnostic ability is taxed to the utmost, and the most important symptom, pain, is not to be depended upon. In this variety of cases we must depend upon chill, nausea, vomiting and subsequent sudden drop in temperature, increased rate of pulse, loss of liver dullness, shifting dullness and loss of abdominal respiration. These last three symptoms unfortunately are due to peritonitis following perforation, rather then to perforation thus increasing our operative mortality.

While it seems reasonable to suppose that hemorrhage in cases means possible perforation, perforation does not depend upon hemorrhage, and because our patients do not have hemorrhages, we should not be misled in believing that they are not in constant danger of perforation.

The diagnostic sign as proposed by Brown, of Rome, N. Y., "the dipping crackle" in trained hands would be a valuable confirmatory sign. The sign is elicited by placing bell of stethoscope over the right iliac fossa and dipping suddenly with it as in dipping palpation, a very fine crackle is to be heard, due to contact of viseral and parietal peritoneum, the inflamed surfaces apparently sticking together momentarily. To appreciate its value it must be tried early, for as intestines become tympanitic it is no longer to be heard.

Another sign which may be of great value is the extention of pain and tenderness upon changing position of patient, this showing up within ten or fifteen minutes after change.

The other variety of intestinal perforation is that due to contusion of abdomen without evidence of injury of abdominal wall. A factor in the production of this variety would be the condition of intestinal tract in presence or absence of tympany at time of injury. A blow upon the abdomen in the presence of tympany would be more likely followed by rupture of intestine than when abdomen is more or less collapsed. While these two conditions, intestinal perforation of typhoid and intestinal

rupture due to abdominal injury are due to unlike causes, the early diagnosis of both is founded upon reliable clinical signs, which if misinterpreted early in the condition. our efforts to save life are futile.

The treatment of intestinal perforation is operative and yet I am of the opinion that cases of perforation occasionally recover without operation. The wonderful protective property of the peritoneum in walling off inflammatory conditions holds good in intestinal perforation as will be shown in case report. But, of course, to advise other than operation is criminal to a degree.

The selection of an anaesthetic is the most important consideration. There is no greater field for employment of local anaesthesia than in intestinal perforation. It combines many advantages. First of all in typhoid fever the vitality of patient must be considered and by administering a general anaesthetic, we are adding fuel to the flame. Local anaesthesia can be employed practically painlessly by method of infiltration, the only appreciable pain being the peritoneum when it is opened. But since there is an element of doubt in some cases and our operation is exploratory, we have harmed the patient only a trifle by operation with local anaesthesia, if the perforation be not present. Upon opening the peritoneum, if perforation has taken place, there is a sudden escape of gas or fluid which gives the patient a feeling of temporary relief. After the diagnosis is positive, if the perforation is not easy of access and the intestines are very tympanitic, the use of a few whiffs of anaesthetic occasionally, will enable us to work with greater degree of rapidity.

In typhoid perforation the area of typhoid involvement is usually confined to a limited area, and thus is usually quickly found without difficulty. The perforation should be properly closed and other areas suspicious of possible perforation should be reinforced by peritoneal sutures.

In rupture or perforation of second variety the entire intestinal tract should be explored and discretion used as to necessity of resection or closure of intestinal hole.

As to irrigation of abdominal cavity much has been said for and against. While Murphy has had remarkable results in peritonitis cases by relying upon position and proctoclysis and discarding irrigation of abdominal cavity, in the two cases that I will report, I resorted to irrigation of cavity in both cases, mainly because in case of rupture there were feacal accumulations in abdominal cavity that I wished to cleanse out and in perforation case there seemed to be much serum and feacal matter in abdomen. While I appreciated at the time that I was not acting according to the present accepted method of choice, both cases made uneventful recoveries, the interesting data in both being seen in the following reports:

Mrs. A., age 38, residence Savannah Road, Augusta, Ga., family history, negative. Past history, negative. Present history: On February 22, 1909, Mrs. A., was taken sick with fever and some abdominal pain. Constipated. I saw patient on February 25th, at her home on Savannah Road. Physical signs were as follows: Few rales over chest. Abdomen slightly distended and tympanitic. Some soreness in right illiac fossa. Vaginal examination—negative. No rose spots. Temperature 101. Pulse 96—Res. 24. I advised removing patient to City Hospital. Advice was taken and patient removed to hospital the following day. At time of admission, temperature 100. Pulse 100—Res. 24. Tenderness in right illiac fossa. Urinary examination negative. Leucocytosis 11,000. Malaria negative. Patient complained of a great deal of nausea but did not vomit. From February 26th to March 10th, evening temperature did not exceed 102. Morning temperature touched normal several times. On March 10th at 1 p. m., temperature dropped to 97 by mouth. Pulse 82. Patient complained of some little abdominal pain, but owing to low pulse rate

and good general condition, I did not attach any importance to 97 temperature, since it had been 98 the morning before, and I felt that she was probably beginning to convalesce. Widal examination at this time was positive. Following day temperature ranged from 99 4-5 to 100 2-5. On 22nd of March, twenty-eight days from beginning of symptoms of typhoid, at 10 a. m., patient complained of pain in abdomen when coughing. She had at this time a slight liquid bowel movement with particles of faecal matter. At 10:30 a. m., she complained of cramping pain in abdomen followed by slight liquid movement. Temperature 101 2-5. Pulse 100. Res. 22. At 12:15 complained of severe pain in lower part of abdomen. Recital tube was inserted with no result. Turpentine stupe applied to abdomen. At 2:45 temperature 104 3-5. Pulse 110. Res. 22. At 3:40 temperature 104 2-5. Pulse 112. Res. 22. At 5:50 temperature 103 3-5. Pulse 110. Res. 20. At 7:30 p. m., temperature 102 2-5. Pulse 124. At 9:20 p. m., temperature 97 3-5. Pulse 128. Res. 20. At this time abdomen was beginning to show distention, somewhat rigid. Abdominal pain general. Slight nausea and anxious expression. I felt certain that perforation had occurred and patient was prepared for operation. Under local anaesthesia, assisted by the House Staff, median incision was made. As soon as peritoneum was opened there was a gush of gas and serious fluid. Patient gave a sigh of relief. She became exceedingly nervous so Dr. Battey, Sr., gave her a little chloroform. Incision was lengthened and intestines inspected. I found an area of typhoid involvement about one foot in length in small bowel, in ileum within six inches of caecum, a perforation about the size of slate pencil communicating with cavity, also an attachment of omentum to bowel three inches above perforation. In attempt to separate omentum which was tightly adherent, a former perforation was disclosed thus showing that perforation had occurred at an earlier period of the disease without positive symptoms, except one attack of

boring pain lasting about half hour during second week of fever, the wonderful action of nature saving a peritonitis and undoubtedly proving that perforation may happen in many cases without resulting fatally.

The last perforation was closed by Lembert sutures. Abdomen was flushed out with Saline solution, owing to the fact that faecal accumulations had escaped through opening into cavity. Mickulitz drains inserted in pelvis. Abdomen closed by layers. Patient returned to room. Placed in Fowler position with Murphy irrigations and stimulation. Drainage tubes were removed by piece meal daily, and completely removed by twelfth day.

The further history of case is without interest. Patient left hospital on April 24th, with small granulating wound which healed completely in two weeks. I saw patient three weeks ago. She weighs 180 pounds and is in splendid health.

INTESTINAL RUPTURE

Thos. J. Cato, No. 831 Liberty Street, age 34 years. Employee of the Augusta Lumber Company.

HISTORY OF ACCIDENT.

On January 4, 1910, at about 4 p. m., while ripping boards, one piece of board mounted saw, threw same backward striking operator. At time of injury operator had on undershirt, top shirt, drawers, trousers and overalls, all covering his abdomen. When accident occurred operator felt as though something had knocked a hole into him, to use his expression. He stopped work for a few minutes, then resumed work feeling somewhat weak. He worked for one-half hour and was then forced to stop because he felt as though he were "burning inside.' He was taken home in a conveyance reaching there about 5 p. m. I saw him at about 5:30 and found

him sitting up in his room. He stated that he felt very well, but was weak. I had him put to bed and catheterized him to be certain that there was no bladder rupture. An examination of abdomen revealed slight tenderness one inch below and to left of umbilicus. No evidence of injury of abdominal wall. Abdomen slightly tympanitic, no dullness. Temperature 98 4-5. Pulse 88. Res. 24.—I advised patient to take a dose of Magnes. Sulph. He told me that he had taken a dose of castor oil in the morning, but without results. I also advised him to call me at once if he had any abdominal pain. At 7:30 p. m., of same day I was called hurriedly to patient, receiving message that he was suffering intensely. I went immediately to his home and found him rolling from side to side in his bed with intense pain in abdomen. The abdomen was of boardlike rigidity and somewhat retracted and very sensitive to pressure. The flanks were dull on percussion. He vomited several times. I believed there was a rupture and decided to operate at once. Patient was taken to hospital and I operated at 10 p. m., six hours after injury.

OPERATION.

Chloroform was administered by Dr. Battey, Sr., assistants were House Staff of hospital. On opening abdomen there was an escape of brownish fluid of faecal appearance . Examination of stomach revealed no lesion. The transverse colon and omentum were drawn up allowing more fluid to escape, no lesion found. The intestines were somewhat injected and covered in spots by plaster lymph. A systematic examination of small intestines showed a perforation about size of ten cent piece. Perforation closed by Lembert sutures. Abdominal cavity flushed with saline solution. Drainage tube inserted in pelvis. Abdomen closed in layers leaving room for drainage tubes.

AFTER TREATMENT.

Fowler position, Murphy irrigation. Bowels were moved on second day after operation with compound licorice powder. On third day patient was eating regular meals. He was discharged-cured in two weeks.

In British Medical Journal of October 9th, 1909, Dr. Radcliffe reports a case of traumatic rupture of small intestines, due to blow in epigastum by sharp end of plank. He was operated upon ten hours after injury. A longitudinal rupture three-fourth inch in length was found in jejunum about two feet from commencement. Rupture was closed with continuous Lembert sutures. A second suprapubic incision was made and drainage inserted in pelvis. Another incision was made through parietes over appendix for performance of appendicostomy. A continuous saline irrigation of normal salt was carried on through appendix stump for forty-eight hours. Patient recovered with faecal fistula which lasted for a week.

I mention this case in order to obtain a discussion as to the value of appendicostomy in such cases, since having gotten such a splendid result without its performance.

A CASUAL REVIEW OF THE WORK ON THE APPENDIX.

Willis Jones, M.D., Atlanta, Ga.

We find records of incisions for the purpose of draining abscesses in the right iliac fossa dating back as far as beginning of the Christian era, being about the year 50 B. C. The first recorded case of diseases of the appendix was reported by Mestivier in the year 1759, who incised and drained an abscess in the right iliac fossa in a man of 45 years of age. The patient died a few days later and an autopsy revealed a badly diseased appendix, and when opened it was found to contain a rusty pin. From the time Mestivier reported his case up to the year 1824, six other cases of abscess in the right iliac fossa were reported, where autopsy revealed advanced disease, and the presence of foreign bodies in the appendix.

All of the reports, covering a period of 65 years, up to 1824 referred to the diseased condition found in the appendix, but considered it secondary to some lesion originating in the colon. In 1824 Louyer Villermay published an article in which he described the inflammations of the appendix as definite disease. In 1827 Melier, another Frenchman, published a paper on the subject even more striking in detail than his colleague, Louyer Villermay, calling particular attention to the fact, that at autopsies, the pathology of the appendix had been much overlooked, and predicted the possibilities of surgery for its relief.

The accurate descriptions of Louyer Villermay and the well founded theories of Melier were not used by their contemporaries in the profession, because Dupuytren, the leading surgeon of his day, was too narrow to

realize the importance of this great opportunity, and remained an exponent of the thought of his time, which referred to the colon, the origin of all right iliac inflammatory processes. The German surgeons in applying the name Perityphlitis to inflammations of the right iliac fossa, both encouraged and confirmed the erroneous opinion which has in some quarters hardly been obliterated in our own day.

The interpretation of the symptoms and pathological findings of inflamations in the right iliac fossa had kept pace with the rapid evolution of surgery, and were now recognized and known to be characteristic of disease of the vermiform appendix.

In 1884 Kronlein, of Germany, made a diagnosis of perforation of the appendix, and did the first operation for its removal. The wound was closed up without drainage and the patient died three days later. Two years afterwards, in 1886, Hall, of New York, did the first successful operation for the removal of the appendix with the recovery of his patient. Until this time dispute and contention was still rife as to the origin of abscesses in the right iliac fossa, and not until Reginal Fitz, of Boston, in the same year gave to the surgical world his epoch making paper, clearly defining relationship between disease of the colon and appendix, did the subject which had been buried under a mass of incoordinate facts and unstable theories, became cleared of all obscurity, and established upon a scientific basis.

In this notable paper of his, we note the following dictum. It is the duty of every physician to be mindful that for all practical purposes, Perityphlitis, Perityphlitic Tumors, Perityphlitic Abscesses, mean inflammation of the vermiform appendix. And it is to Fitz we give the distinction of having named the condition appendicitis, he preferring the term rather than having it known as Fitz' disease. After the atmosphere had been cleared by Fitz' paper, it was not long before our aggressive surgeons realized the misdirection of their former efforts,

and were hasty in their attempts to handle this important condition, along the lines suggested by modern surgical pathology.

In 1889 McBurney gave a powerful stimulus to the surgical treatment of appendicitis by demonstrating the feasibility of doing the operation without destroying the continuity of the abdominal wall. Since that time the McBurney inter-muscular operation has been the standard—others simulate, but none excel.

From this casual review of the literature on the subject of appendicitis, we readily see that the aggressive surgery of the appendix as it is practiced today, is only twenty-six years old, and though first suggested by a Frenchman, first executed by a German, all praise be to our American surgeons, who have brought the work up to its present high standard of perfection.

The anatomy of the appendix is very interesting, and at times most perplexing, for its anatomical position is not fixed; in fact there is no portion of the abdominal cavity where the appendix may not be found. These anomalies of position are due first, to an abnormally long Meso-appendix; second, to an arrest of foetal development. A long appendix with a long Meso-appendix may extend across the media line of the body into the left iliac fossa, or ,extend upwards or inwards among the coils of the intestine, and it has been found firmly attached to the interior abdominal wall. When the caecum and appendix are found out by the right lower quadrant, this condition is due to an incomplete rotation of the gut during the process of foetal development, likewise, the cases of retrocaecal and retroperitoneal appendicitis, are due to faulty rotation. The average length of the appendix is 3½ inches, but it has been found as long as nine inches and as short as three-fourths of an inch. Its lumen or cavity is as variable as its length. It is found to be partially or totally occluded in at least one-fourth of all specimens examined. This variability of the organ as to position, size, and structure, are considered by the

evolutionist as a sign of degeneracy in the process, which is undergoing a gradual obliteration in the higher animals. Alimentation has an important bearing on the development of the cecum in many of the higher animals. Herbivorous animals have an enormously developed cecum, whereas, in carnivorous animals it is found small, and sometimes wanting. In man, apes, and many of the rodents where the food is midway between that of the Herbivorous and Carnivorous types, a retrograde development of the cecum is found, giving rise to a long worm-like projection from the base of the cecum which is known as the vermiform appendix. This retrogression is probably due to changes in the character of food which has taken place during the history of the species. Our foremost students in comparative anatomy believe that the appendix is destined for further reduction in size and ultimate elimination.

What is the etiology of inflammation of this little troublesome worm-like organ? Naturally, we look to the various mico-organisms as being the exciting factors, chief among which is the colon baccillus. In connection with the exciting causes the predisposing must not be lost sight of. It must be borne in mind that the appendix is a vestigial organ undergoing an evolutionary and retrograde metamorphosis, and it is recognized that organs of this structure are especially liable and susceptible to inflammation. The scarcity of its blood supply renders it a poor combatter of infection. The appendicular artery, a branch of the ilio-colic, lying between the folds of the meso-appendix is very prone to circulatory disturbances from many conditions either physiological or pathological that increase intro-abdominal pressure. Acquired or congenital narrowing of its lumen precludes complete emptying of the organ, and fecal stagnation easily results. It is surrounded by a firm unyielding peritoneal coat, embracing structures composed of soft embryonal elements, so that in an infection we have added compression and tension, which explain the rapid-

ity with which gangrene may take place. With all these added predisposing anatomical factors, we should not wonder that appendicitis is the most frequent of all abdominal surgical diseases. The records of reported cases show that the disease is more frequent between the ages of ten and thirty years; during that period of life when lymphoid tissue is most abundant. Erdmann in his recent writings on Appendicitis, in children, published in the New York Medical Record reports 100 cases varying in age from twenty-one months to fifteen years, and in this series he was able to demonstrate foreign bodies in forty-one of the 100 apendixes removed. It is thought to be more frequent among men than women, because of the better blood supply in the female. The appendix sometimes receiving a branch from the ovarian artery. Digestive disturbances, constitutional disorders, movable kidney, foreign bodies, and trauma, having all been written about and discussed as possible predisposing agents. However numerous the predisposing causes, we should ever bear in mind that the essential for the production of an inflammation is the presence of someone or more of the pyogenic micro-organisms.

Pathologically, we find all varieties of lesion from the mild catarrhal to the fulminating and gangrenous types.

The early symptoms of the disease are not indicative of what the ultimate outcome may be. We have nothing to tell us which case is going to do badly and which one is going to do well. Pain and tenderness are the symptoms that are most often met with. Temperature elevation, and acceleration of the pulse are not indicators of the severity. Vomiting by some is thought to be a forerunner of Peritonitis. Rigidity of the right rectus muscles is usually present and most significant. Constipation is the rule, though Diarrhea may exist. With all symptoms of an acute inflammation in the Appendix, without one single symptom to tell us whether the condition will go on to resolution or become gangrenous or perforate, what are we to advise our patients to do when

consulted? Worcester, of Waltham, Mass., in a paper published in 1892, answers this question most emphatically in the following words: "Appendicitis is an inflammation of a useless organ, dangerously situated. At the beginning of an attack it is not possible to determine whether it will prove of the harmless or of the dangerous type. The diagnosis is easy in comparison with the task of diagnosticating the seat of any acute inflammation. At the beginning of an attack the excision of the appendix is an easy and perfectly safe operation. If so treated, all complications and all subsequent attacks are avoided. In view of the results already obtained by following this treatment, no other treatment is worthy of consideration." From the time of his writings to the present day no one has been able to give more truthful and life saving advice covering this condition. Ask the surgeons the cause of mortality in their operations for Appendicitis, and they will invariably tell you complications of delay. There is only one logical treatment for the disease that cannot be criticised, and that is, early excision of the organ as soon as the diagnosis is made—provided there are no heart, kidney or pulmonary contra-indications. What we wish to accomplish in the treatment of this condition is not to save one-half of our patients, nor four out of five, but all of them, and in order to do this, no chances of hopeful expectation must be taken nor delays advised.

We must admit that 80% of all cases will recover under the so-called medical treatment, but the remaining twenty per cent. will do badly, and is is this twenty per cent. that we are stiving to save. Of the eighty per cent. that responds to medical mesures, a large number will at some future date have a return of the trouble and this time may not yield to former treatment. Until the art of prognosis is established upon a more scientific plane, we had better be over-cautious in givin an opinion as to the ultimate outcome of any acute attack

of appendicitis, for, in cases where we least expect it, we oftentimes find a pocket of pus or an appendix already gangrenous and the patient having given us physical signs of neither. Research in the examination of the blood in these conditions has given to us some light upon the risistance o f our patients, the fight they are making against the infection, and the degree of severity of the pathological process. I know of no disease where such discrepancies exist between physical signs and pathological findings as we often see in appendicitis.

In the simple catarrhal type of the disease, many surgeons give reports of mortality of less than half of one per cent. where several hundred cases have been operated upon successfully. So gratifying are the results in the interval cases or in the early beginning of a disease that there was quite a tendency a few years ago to wait and watch for the interval, but since we are growing older in the work, we are likewise becoming wiser. Waiting and watching should not be taught or practiced either in private or public, for perforations occur under our own eyes, and the best clinicians in their endeavor to check spreading infection are confronted with disastrous results. Most surgeons will tell you that they are always worried while watching and waiting on a case of Appendicitis not operated upon. Perforation and spreading infection kills ten times as many patients as inexperienced operators, in the early stages of the disease.

It has been urged that in grave cases abstertion will save more than operation. Simson reports thirteen successful cases of general or extensive Peritonitis, with only one death. Can abstertion promise more? Surely nothing can be lost by providing an escape for an inflammatory exudate, thereby reducing the task the body in taking care of the baccilli and the toxinosis which they produce. The main principal of the operative treatment in grave cases should be to do the least that would be sufficient to accomplish the object, whether it be to

relieve the appendicitis or arrest a beginning of Peritonitis. The work should be done as rapidly as possible; ever mindful of doing the minimum surgical-trauma to accomplish the maximum of surgical safety. This having been done, my contention is, will save more lives than similar cases treated along so-called conservative medical lines. As yet I know of no drug that will in any way stay the progress of beginning gangrene, or in the least lessen the accumulation and dissemination of its pathological products.

By the operation we strive to remove the appendix and establish drainage, if necessary. Choice of operation is usually a personal equasion of the operator, some preferring McBurney's incision, some Deaver's, and others the incision of Kammerer. Not so much is dependent upon the choice of incision as is upon the manipulation of the viscera adjacent to the diseased appendix. Here we should use all care and gentleness, ever careful not to break up adhesion, if pus or other inflammatory exuate be present. The appendix should be isolated, its mesentery securely tied, and its union with the base of cecum brought full in view. Various methods, all good when properly executed, for treating the stump are in vogue. Some ligate the appendix, cut and cauterize the stamp and drop back into the abdomen. others after tying off the appendix, cutting it away invaginate the stump in the wall of te cecum and suture the peritoneum over its site; one method proving as satisfactory as the other in the hands of various skilled operators.

If called upon to operate after perforation has taken place, and we are reasonably sure of the presence of pus, Deaver's or Kammerer's incisions will probably find more favor than McBurney's, for they give more room for thorough investigation. In such cases if we are convinced that the process is thoroughly walled off by adhesion, and the appendix difficult to locate, and if by endeavoring to isolate and separate it from the mesentery

or coil of intestine to which it is adherent, we are in immediate danger of breaking down nature's barrier and spreading the contaminating exudate, it is far more advisable to establish thorough drainage in this class of cases and wait for the subsidence of the inflammation before any attempt is made to remove the offending part. This necessarily means a second operation, but will leave a monument to our effort in the existence of our patient.

Every case where there is an exudate resulting from inflammation in the appendix should have some form of drain. In such a practice, many cases will be drained, that would recover without; but the uncertainty of some cases in which its absence might mean added danger, a second operation, or even death leads me to use it in every case where any doubt exists. Its disadvantages are not more than minor inconveniences. A slight delay in union, a transient pain on removal. In this operation as in all others done in the abdominal cavity, the wound should be closed in layers, careful of leaving no dead space for the formation of clots, which so frequently are responsible for the failure of primary union.

Wonderful and marvelously progressive has been the science of medicine during the past quarter of a century. In the day of our own recollections we have either seen or heard of patients dying in a very few hours from an acute cramp, colic, inflammation of the bowels, an acute typhoid fever, an acute congestive chill, and idiopathic peritonitis. Portmortem findings and pathology on these subjects teach us that such conditions do not exist per se, but that in the appendix we find the destructive lesion. Rapidly we are having such misconceptions and erroneous diagnosis forever erased from the instructive pages of our modern medical literature. The operative mortality in appendicitis is going to be reduced, just with the same degree of rapidity as our patients learn to have the work done during the hours of election and not waiting until the time that necessity demands.

OPERATION FOR LARGE FIBROID OF THE UTERUS WITH REMARKS.

J. G. Earnest, M.D., Atlanta, Ga.

Minnie Turner, aged 42 years, negro, of medium height and slender build, married, has never been pregnant. Her menses for several years past have been irregular, coming about once every three to five months, lasting three days and accompanied by rather severe pain during the whole time. Pulse 80, temperature 99, when admitted to the Grady Hospital, January 6th. Appetite good, tongue coated, bowels constipated. Complained of pain and pressure in the abdomen and looked like a woman ready to be confined at full term. The abdomen was occupied by a fibroid tumor that extended from the bottom of the pelvis to the margin of the ribs and stood out very prominently in front.

She first noticed a small hard mass just above the pubis nine years previous. This mass steadily increased in size until the present enormous proportions have been reached. After some preliminary treatment, consisting mainly of clearing out the bowels and improving her digestion, she was brought to the operating table at 2:45 p. m., January 14th. A long incision in the median line, reaching from the pubis nearly to the ensiform cartilage was necessary to get out the tumor which was nearly symmetrical in shape and was firmly adherent to the abdominal and pelvic walls over its entire surface, except the upper portion which was completely plastered over with coils of intestine and omentum. The adhesions were evidently of long standing, as they were unusually tough and vascular and bled so freely from the abdominal walls that the hemorrhage from this source proved to be a very serious matter, threatening the life

of the patient. On account of the large surfaces involved and the great number of bleeding points it was impossible to tie or clamp the vessels or even bring them into view, until the tumor was removed. This required an unusual length of of time on account of the tough adhesions in the lower pelvis and the large number of ligatures that were necessary to secure the vessels in the omentum and coils of intestine dissected off from the tumor. In the meantime, the hemorrhage was partially controlled by packing pads wrung out of hot water in between the abdominal walls and the tumor. Finally the broad ligaments were clamped and cut loose at the upper side, the bladder stripped down and the cervix cut through and the tumor removed.

The toilet of the peritoneum was made in the usual manner, by tying off the uterine and ovarian vessels, uniting the cut surfaces of the cervix and covering the raw surfaces with peritoneum. Plain cat gut being used exclusively in the abdomen. The abdomen was flushed with hot salt solution and closed with three rows of sutures. The peritoneum and muscle sheath with No. 2 plain catgut, the skin and fascia with silk-worm gut interrupted.

She had while on the table by infusion 1,000 C. C. normal salt solutions—and hypodermicaly camphor ether Gtt. XV., strychnine 1-30 grain, Spartin Sulph. Gr. II. When put to bed the foot of the bed was elevated about forty degrees and a pint of warm salt water injected high up into the rectum, while the body was covered with blankets and surrounded with bottles of hot water.

The tumor weighed forty-one pounds and eight ounces. The operation lasted two hours and five minutes. When she left the table her pulse was 168 and very small. Half an hour later it had dropped to 144 and at 10:00 p. m. it was 120 and of fair volume. The foot of the bed was not changed for twenty-four hours, when it was dropped down to about twenty degrees, in which position she was kept for two days before bringing it down to a level. She had two grains of Spartein Sulphate and 1-40 grain

of strychnine hypodermically every four hours and a pint of salt solution with a tablespoon full of panopepton by rectum. After two days the rectal injections were discontinued.

On the night of the fourteenth day after the operation she began coughing freely and the temperature ran up to 104 degrees. There was considerable dullness on percussion over upper part of both lungs. On the following day there was a small amount of rust colored sputum. The high temperature continued with more or less variation for a week, when it dropped to normal. The patient left the hospital on the thirty-second day after the operation with normal temperature, good appetite and rapidly improving in strength and flesh.

In preparing cases of very large fibroid tumors of the uterus for operation it is well to keep the bowels open with saline aperients for several days previous to operation and at the same time keeping the kidneys flushed with alkaline waters, so as to relieve as far as possible the congestion of the kidneys which is almost always present in these cases as attested by the presence in the urine of albumen, granular casts, and frequently pus and blood corpuscles. In my early operations I was much exercised over this condition and hesitated to operate on acount of the supposed danger from the anesthetic under such circumstances. As, however, operation was in many of the cases an immediate necessity on account of the pressure of the tumor, the risk had to be assumed. As I do not recall an instance in which any serious complication followed from this cause I have come to think less of it as a draw-back to operation. Ordinarily the kidneys rapidly return to a normal condition after removal of the tumor and the institution of proper post operation treatment. This treatment consists mainly of saline infusions, high enema for normal salt solutions, the hypodermic injection of Sparteïn Sulphate and free use of alkaline waters as soon as the patient can retain them.

Every operating room should be furnished with an electric battery suitable for stimulating the heart's action in case of collapse. I am absolutely certain that I have saved two cases on the operating table by the use of electricity that could not have been saved without it. Neither of those cases were being operated for uterine fibroids, but the same condition is liable to come up in the course of any serious operation and for that reason the battery should be a part of the furnishing of every well equipped operating room. Fortunately, it will be needed very rarely, but, if you ever should need it, it will be too late to get one after you find it out. The Trendelenburg Position with artificial respiration and infusion of salt solution may be all that some cases of shock require, but, if the heart stops, nothing but electricity can start it.

Next in importance after securing the action of the kidneys, is the question of when to move the bowels. Thirty years ago operators generally gave their patients all the morphine required to relieve pain during the first week and frequently there was no attempt to move the bowels for that length of time. I followed that plan for several years without any serious trouble from it. Then came the change of opinion that swung the pendulum to the other end of the arc—the argument being that troublesome intestinal adhesions were less apt to form and that the patient's temperature ran lower and there was less danger of septic trouble from the presence of effete matter and poisonous gases in the intestines. Under circumstances that require it (for instance if a rent has been closed in an intestine or a resection of the gut has been necessary in the course of the operation) there is no reason for haste in moving the bowels as a certain amount of gas in the intestines rather stimulates the peristalists and tends to prevent adhesions by preventing the flacid folds of intestines from resting flat against raw or inflamed surfaces. Usually a pint of normal salt solution thrown high up into the rectum every four hours

will not only assist materially in flushing the kidneys, but will generally prevent the lower bowel from clogging and producing over distention by gas above. If there be no contraindication it is best to move the bowels on the second or third day by small doses of some mild saline cathartic given every two or three hours until it acts. As to the use of opiates it seems advisable to use moderate doses of morphine or codeine if required to relieve pain,—it stimulates the patient and tends to prevent post operative shock. However, we should never lose sight of the danger of over dosing with opiates on account of the interference with the excretory apparatus,—especially the kidneys.

DISCUSSION

Dr. F. W. Schnauss, Cecil: I should like to ask Dr. Earnest what current he used. Would it not have been advisable to have removed this tumor in halves as done by Dr. Noble? With a curved knife he divides the tumor and delivers it in halves.

Dr. J. G. Earnest, Atlanta (closing the discussion): In answer to Dr. Schnauss I would state that the kind of electricity feasible was a fairly strong current, no matter whether from a Faradic or secondary. One should use a course wire and a current of moderate strength.

With regard to splitting the tumor prior to its removal, that procedure is somethimes feasible, although I have never used it in many of my cases. Some operators are very fond of using it in large fibroids of the uterus but I cannot see how this method could be applied in the case I spoke of. This tumor filled the entire abdomen; it weighed forty-one and a half pounds and it would have been a very difficult matter to split it. In fact it was a very difficult matter to even peal it loose from the abdominal wall. I think it was better to operate in this case as I did. I have never been partial to the method referred to, although I have used it a few times. I like the old fashioned way the better.

THE RESULTS OF AN OPERATION FOR SUSPENDING THE UTERUS BY THE ROUND LIGAMENTS

J. R. B. Branch, M.D., Macon, Ga.

So much has recently been written upon operations for suspending the uterus, it is our desire not to add unnecessarily to the already voluminous literature. We shall, therefore, confine this paper to a report of fifty-nine cases operated upon in the Gynecological Clinic of the Johns Hopkins Hospital, after a brief consideration of the requirements of the operator, and a description of the technique employed.

An ideal suspension of the uterus must do three things: (1) Keep the uterus in good anteposition, relieving the symptoms consequent to retroflexion and retroversion; (2) Allow unrestricted development of the uterus necessary to the completion of normal pregnancy; (3) Resume its suspensory function after labor. The old Kelly ventral suspension fulfilled admirably the first of these requirements, but did not meet satisfactorily the second and third. Sampson has reported the results of our cases in the Americal Journal of Obstetrics.

After one or two severe cases of dystocia, where the ventral suspension became a ventral fixation, we abandoned the operation where there was a possibility of subsequent pregnancy.

The operation now done is modified from that of Gilliam and is performed as follows: a small medean abdominal or Pfannenstiel incision is made, exposing the pelvic organs; a silk traction suture is passed through each round ligament about 5 cm. from the uterus. An important improvement, originating with Ferguson, and revived by E. H. Richardson, has been recently added. A

purse-string suture of cat-gut is now placed on each side, beginning in the parietal peritoneum near the internal abdominal ring, and including that portion of round ligament between the ring and the silk traction suture previously taken. This suture is tied later, and closes up an open space through which a loop of bowel has been known to enter and become strangulated. A sharp Halsted clamp is pushed through the rectus muscle, etc., into the peritoneal cavity, the silk traction suture grasped and, by drawing it, the round ligament is brought out and readily sutured to the under surface of the outer portion of the fascia of the rectus. Fine silk is usually used for this purpose, care being taken not to strangulate the ligament by too sharp a kink. The ligaments are usually not crossed over but sutured to the fascia on its own side. The cat-gut purse-string sutures previously placed are now tied, and the incision closed in layers throughout.

We emphasize , first, the importance of the purse-string suture of cat-gut; second, the suturing of the round ligaments to the under surface of the rectus sheath, thus shutting of the peritoneal cavity from the exterior by the strong fascial layer.

In some cases the vaginal outlet was relaxed, and perineoraphy was also done.

The following questions were asked in letters sent to patients, one to five years after operation; fifty-nine replies were received and results tabulated as shown below:

QUESTIONS

1. How has your general health been since operation?
2. Have you had any pain such as you had before your operation here?
3. Do you have pain at your periods?
4. Do you have leucorrhea ("whites")?
5. Have you had any operation since the one here If so, for what?

6. If married, have you had any children or miscarriages since leaving here?

Please give dates of labor or miscarriages if possible.

The patients may be classified as follows:

White	48	Nulliparous	21
Black	11	Parous	38
Total	59	Total	59

The results are:

Cured of all symptoms	39 or 66%
Improved	8 or 13.5%
Unimproved	10 or 17%
Cured, but a recurrence of symptoms after labor	2 or 3.5%

In these cases were twenty pregnancies:

Normal cases	15	75%
Forceps	2	10%
Miscarriages	2	10%
Long, hard labors	1	5%
Total	20	100%

In two normal cases which, up to the time of labor, had been cured of all symptoms, a recurrence of symptoms was noted after labor—10% in twenty cases.

	White	Black	Nulliparous	Parous	Suspension	Suspension and Perineorraphy
Cured	30	9	16	23	27	12
Improved	7	1	1	7	4	4
Unimproved	9	1	4	6	5	5
Cured, a recurrence of symptoms after labor	2	0	0	2	1	1
Total	48	11	21	38	37	22

From these results, we are warranted in drawing the following conclusions:

1. The majority of patients who have come to us for relief of symptoms of retroflexion and retroposition are multiparous white women.

2. That 66% are cured of their symptoms.

3. That 75% of subsequent pregnancies terminate in normal labor.

4. That 10% suffer recurrence of symptoms after labor.

5. That the operation described is only fairly satisfactory, in that it falls short of fulfilling the requirements imposed upon it.

I wish to thank Dr. Howard A. Kelly for suggesting to me this arbeit, for the use of his clinical material, and for other assistance which has made this publication a possibility.

DISCUSSION

Dr. R. R. Kime, Atlanta: The report in Dr. Branch's paper this morning contains selected cases in which he has found it necessary in this work to bring the uterus forward. We all know that the uterus is not a fixed organ. The question naturally arises, what amount of retroversion is necessary in order that an operation should be required. For this work on retroverted uteri, operations are innumerable, but of late the operation is being done by means of a simpler operative technique. Of late the operation has been directed more to the round than to the broad ligaments. Murphy, of Chicago, sutured the round ligaments to the anterior surface of the uterus. Two or three years ago a combined operation was employed, not only the anterior layer of the broad ligaments being used but also the round ligament, attaching them to the anterior surface of the uterus. The round ligament was brought forward and held forward on the fundus of the uterus. So far as stretching the round ligament

so that it can be attached to the uterus is concerned, this can readily be done by attaching to a higher point on the uterus.

Dr. W. W. Battey, Jr., Augusta: I have been much interested in this line of work, but it should be remembered that every case belongs to itself. I am positively opposed to operating upon every woman; her pains are not always caused by a retroversion or retroflexion. Last year I heard a very scholarly paper which showed that there were many females suffering from aches and pains that were due to causes other than from pelvic conditions; that is, in many instances the application of some support, such as a well applied bandage, gave them much relief which would have been attempted by suspending the uterus had these women passed into the hands of some gynecologists. I should like to inquire of Dr. Branch what action the round ligaments have in supporting the uterus. How do they act in holding the uterus in position? It has been stated that using the broad ligaments for this operation is inefficient; I endorse this statement most heartily.

Dr. J. R. B. Branch, closing: I agree with the statement that the broad ligament is a better support for the uterus. He is right in his statement regarding the physiological supports of this organ. He states that the round ligaments are not capable of acting as efficient supports for the uterus. He states that the suspensory ligaments are made up histologically of connective tissue and, therefore, the broad ligaments should be used for suspending the uterus. The operation which uses the round ligaments for the suspension of the uterus is not the best one to use. I think this is the experience of many other men. The operation on the round ligament is not an ideal one; no operation that imposes such a duty upon such a ligament as the round ligament is an ideal one. The normal support of the uterus is not the round ligament.

WERE THE EPIDEMICS OF SICKNESS AT BOARDING SCHOOLS ALL OVER THE COUNTRY LAST YEAR DUE TO TYPHOID INFECTION OR PTOMAINE POISON?

C. M. Curtis, M.D., College Park, Ga.

During the latter part of last year there were epidemics of severe sickness at no less than twenty-four boarding schools in the Southern States. These epidemics all came about the same time with such similar symptoms that there was a very strong opinion that there was a common cause, and that it came from the same source—and that source the food supply. These epidemics of sickness were generally diagnosed at first as Bacterial poisoning, but on account of some of the patients running a temperature for several weeks they were thought by a few physicians to have had typhoid fever, and as I observed sixty-nine cases at the Georgia Academy I wish to present some correspondence in regard to same instead of reporting them in the usual manner.

My diagnosis of ptomaine poison was based on the following facts:

The suddenness of the outbreak, the fact that every boy was perfectly well until the day he was taken violently sick. The extremely high temperature at the beginning of the sickness. The fact that so many of the patients were entirely well in a few days. The fact that the soreness tympanitis, etc., was in the stomach instead of the bowels—the tongue, the odor of the breath both indicated gastric disturbance—the irregularity of the temperature which went down to or below normal in almost every patient at least once a week, and then up again in protracted cases, indicating a re-infection too frequent for typhoid fever.

The mental condition of every patient was particularly acute, while in typhoid fever it is usually dull. Sponge baths which are usually soothing in typhoid fever were unusually irritating in these cases, making the patient nervous, as well as causing an elevation of temperature. There was present a jaundiced condition in nearly every patient, indicating a catarrhal condition of the whole alimentary canal, caused from the bacterial poisoning. There was no typhoid fever odor and no typical typhoid fever stools. At the Georgia Military Academy there was no sickness among the day pupils, and not a single case in the community outside of the school, and none in school, except the ones that came altogether at the same time.

The character and course of this sickness was very similar to the sickness that was caused by bad meals fed to the soldiers during the Cuban war, which caused the government to fine the Cudahy Packing House $80,000 at one time, and similar to the sickuess which caused the government investigation of packing houses several years ago, and which led up to the enacting of the pure food law and the government inspection of meats.

I wish to add that this sickness last year was not by any means confined to schools. There was a great many cases of ptomaine or bacterial poisoning in private practice all over the country, and a number of deaths from same. But back to the sickness in the schools they all tried to keep the fact that there was sickness from the public, but from the best information I can get all the epidemics were very similar in the origin course and character to the one I am reporting in the following correspondence, which I use here to show the opinions of others as well as myself.

DR. C. M. CURTIS, Physician and Surgeon.
GEORGIA MILITARY ACADEMY, Medical Department.

College Park, Ga., Nov. 9, 1909.

CIRCULAR LETTER TO MEMBERS OF STATE MEDICAL ASSOCIATION OF GEORGIA.

Dear Doctor:—

We have recently had a very peculiar kind of sickness at the Georgia Military Academy.

Sixty-nine boys were stricken down within forty-eight hours, with what appeared to be the same malady. All had about the same symptoms more or less severe. There was a depression in the circulation, a sub-normal temperature, rising rapidly in some instances from 96 to 106 in from six to twenty-four hours.

Patients generally suffered some uneasiness in stomach and bowels, with severe pains in head, back and muscles of limbs.

The temperature rose high and fell low at different irregular intervals for a few days and then dropped to normal in from one to two weeks.

Probably 50 per cent. of cases terminated in ten days, 75 per cent. in fifteen days, and about 25 per cent. of boys are still in bed and half of those are practically convalescent, while five or six are very sick in a typhoid condition.

My diagnosis was Ptomaine poisoning, probably due to eating boneless boiled ham (boiled at the packing house)

The ham was suspected because only boys who ate the ham were sick, and the boys who did not eat ham were not sick. The boys who ate most ham were the most severely sick.

Treatment was eliminative, calomel followed by salines and the castor oil and turpentine was given daily until patients were convalescent.

Nourishment was principally egg albumen, and buttermilk. Meat broths, sweet milk and ice cream were not given to my patients.

In the course of the disease from the second to the fourth day of sickness in a number of cases there was a similar condition found in a typhoid fever patient at the end of the second week. This condition alone, however, would not warrant a diagnosis of typhoid fever by a physician of experience and keen observation.

At the end of two weeks there are a few of these patients in the Infirmary—and if you would like to see them, I would be glad to have you call at the Georgia Military Academy any time it is convenient for you within the next few days, and Miss Hearn, the nurse in charge, will take pleasure in showing them to you, and also give the history of those who are well.

Very truly and fraternally yours,

(Signed.) C. M. CURTIS.

DR. MARTIN,
247 Bull Street, Savannah, Ga.

November 26, 1909.

Dr. C. M. Curtis, College Park, Ga.

Dear Dr. Curtis:

I beg to acknowledge receipt of your letter of November 10th, concerning the illness of the boys at the Academy. This report is particularly interesting to me because of the fact that during April and May of last year, I suffered, myself, a similar attack and was ill for six weeks. My illness was directly traceable to so-called fresh sausage.

The symptoms and course were exactly similar to conditions described by you.

Very truly yours,

(Signed.) H. H. MARTIN.

DR. L. C. FISHER,
Atlanta, Georgia.

November 15, 1909.

Dr. C. M. Curtis, College Park, Ga.

My Dear Doctor:

I am in receipt of your kind letter of November 9th, for which I thank you. If at any time I find it possible to stop by your institution, I shall be delighted to do so, as I have been very much interested in the outcome of the sickness that you have.

With very kind regards and best wishes for the success of your efforts, I have the honor to be,

Very truly yours,
(Signed.) L. C. FISCHER.

EMBRY & UPSHAW DRUG COMPANY

Villa Rica, Ga., Nov. 17, 1909.

Dr. C. M. Curtis, College Park, Ga.

Dear Doctor:

I have just read your letter with considerable interest. I agree with you in every particular, both in diagnosis and treatment. It was certainly an unusual coincidence, so many being stricken so suddenly and the same way. The most uncommon feature in your cases, was the extreme temperature high and low, and assuming the slow type of fever. Ptomaine poison was evidently the cause of the whole trouble as they all ate of the same diet. I think your treatment ideal as it was eliminating from the beginning.

Very truly yours.
(Signed.) R. L. EMBRY, M. D.

DR. ALBERT DAVIDSON,
Augusta, Georgia.

November 17, 1909.

Dr. C. M. Curtis, College Park, Ga.

Dear Doctor:

Your communication of the 9th is received today.

The account you give of the peculiar epidemic among the students of the Georgia Military Academy is of very much interest. It appears from other reports that the pupils of other educational institutions in the state have not escaped this same "kind of sickness," and just as in your experience, the patients in other schools some of them have had such tardy convalescence as to give rise to a diagnosis of typhoid. I have not seen any of these cases. East Georgia has no prominent boarding school. Your estimate of the trouble seems to me to be the rational one. I thank you for the opportunity you offer of seeing the few cases not yet fully recovered and getting case history of all of them. I am sorry that I may not avail myself of it.

Very truly yours,
(Signed.) ALBERT DAVIDSON.

ASSOCIATION OF SEABOARD AIR LINE RY. SURGEONS
Office of Secretary and Treasurer,

Ailey, Ga., Nov. 20, 1909.

Dr. C. M. Curtis, College Park, Ga.

My Dear Doctor:

Yours relative to the ptomaine poisoning received, and congratulate you on your stand in the matter, because there is no excuse or reason in the world for any physician to call these cases typhoid fever. I say you are absolutely correct, and I believe I know as much about diagnosing typhoid fever as any physician.

Very truly and fraternally,
(Signed.) J. E. PALMER.

These are some of the men who agree with me:

Dr. F. M. Ridley, who is chief surgeon of the Atlanta & West Point Railroad, and who has been president of the Georgia Merical Association, and is recognized authority on any medical subjects on which he will offer an opinion.

Dr. R. V. P. Oglesby, who has had a rich experience in the Army, who saw three thousand cases of typhoid fever in Cuba, and who has practiced medicine seven years in the city of New York, says I am right.

Dr. E. C. Cartledge, a young man of rare education and experience says he will stake his medical reputation that I am right.

Dr. Boland, another young man of high ability and deep learning and rich experience, agrees with me.

Dr. Thrash, who is Bateriologist and Histologist at the Atlanta School of Medicine, says my diagnosis is correct.

Dr. S. B. Lee, professor of Medicine in one of the medical colleges in Atlanta, and who runs an infirmary where a specialty is made of treating typhoid fever, says he will not say what the sickness is, but knows it is not typhoid fever.

Dr. R. W. C. Green, a country physician of Clayton county, says if it is typhoid, it is different from any he has ever seen.

Miss Hearn, the nurse in charge of the infirmary at the G. M. A., who graduated at Grady Hospital, three years ago, says there has not been a typhoid odor or stool or temperature here.

Our local physicians, Dr. Dennard, Dr. Foster, Dr. Henley, Dr. Ols and Dr. Overby, all absolutely agree with me. There are other physicians whose names I am not at liberty to mention, who also think as I do about our sickness here.

Doctor, I wish to say I hope my motive for sending out the circular letter has not been misunderstood. My principal object was to let the physicians generally know what kind of sickness we had here, and as the school was suspended, the boys all going home, a number of them being sick, and I not knowing who their physicians were, thought my letter might prevent an error in the diagnosis of some cases and possibly save the life of some boy who might die if not given the right treatment, then ,too, as there are several other schools that have suffered in a

somewhat similar manner, I feel that it is a question that ought to be investigated thoroughly. I believe a large part of the sickness in all the schools may come from a common cause, and the same source, and that source the food supply.

Doctor, it is not necessary ordinarily, and doctors do not usually wrangle over a diagnosis:—it does not make much difference what you call a disease, so the patient gets well, but in this instance, I do not think it right to ruin a school and cast a shadow over a whole community by the mistake of one physician making a hasty diagnosis and stubbornly standing to his first statement in the face of evidence that ought to convince him that he is wrong. In openly differing with a doctor, I feel that I am discharging a duty to science, a duty to humanity, a duty to the community, a duty to the school, a duty to Col. Woodward, and a duty to myself, and Doctor, I am deeply grieved that any of our boys have died, but there may be some significance in the fact that all the boys who have been treated for Ptomaine poison are still living.

Fraternally yours,

(Signed.) C. M. CURTIS.

THE ETIOLOGY OF PROSTATIC HYPERTROPHY.

Edgar G. Ballenger, M.D., Atlanta, Ga.

ARGUMENT

In order that the connection between the different parts of the paper may be clearer, I will begin with a synopsis of my argument. None of the many alleged causes of the gradual progressive enlargement of the prostate gland in elderly men has been accepted as the true cause of this hypertrophy which occurs in about one-third of all men after fifty years of age. (Thompson). This frequently implies that the cause is of very common occurrence.

One of the first questions to ask is, "What can cause hypertrophy?" Adami says toxic irritation, small in amount and long continued, may cause overgrowth of the tissues subjected to such an irritant. The next question to suggest itself is, "Can a toxic irritant be found in the prostate glands of a sufficiently great number of men for it to be a possible cause of overgrowth in such a large percentage of elderly men?" The answer to this is, Yes. A mere glance through a microscope at preparations of the prostatic secretion, using the Reichert dark field illumination, or stained so that the germs are seen actively motile, would be a much more convincing and also a startling answer, as millioms of micro-organisms can be seen, and too from a prostate gland that is not inflamed; the largest number of germs being when no puss cells are found in the secretion. These millions of bacteria have been demonstrated in the prostates of 110 patients during the past year and finding them in so many patients with sexual neuroses, hyperesthesia of the deep urethra, occasional mild irritation of the bladder, itching

of the urethra, "morning drop" discharges, etc, etc., has done more to clear up these dark places in my work than any test I have heretofore used.

It is the enormous number of these non-pyogenic and almost non-pathogenic (excepting the hypertrophy) colon bacilli and staphylococci (occasionally other organisms) which I claim produce the Mild Persistent Toxin which is admitted by pathologists might cause hypertrophy.

Those who doubt my findings may easily verify them by a series of examinations of prostatic secretion obtained and stained according to the technic described later.

Many observers have noted the fact that from the pathologic standpoint the hypertrophied gland presents features characteristic of growths of inflammatory origin, and yet the histories often do not give the symptoms of inflammatory disturbances; they do, however, nearly always show the symptoms of these low grade infections.

In carying out these observations and studies I have attempted to verify the essential features of other work along this line, and to correlate it with my own findings, and I think the most convicing part is its complete accord with the clinical histories, bacteriologic and pathologic reports of a large number of careful workers in all of the different phases of this subject.

Among the alleged causes of prostatic hypertrophy nearly all of them are causitive factors of the above mentioned irritative infections. (Not inflammations). The study of bacteriuria and bacterial infections demonstrates how large is the number of ways in which infections of the genito-urinary tract may occur.

Keyes says, "bacteriuria is usually perpetuated by a renal or a prostatic lesion": it is with the latter that this paper has chiefly to deal although many phases of the character and sources of genito-urinary infections will be discussed.

With this prostatic bacteriuria in mind the argument of my whole paper revolves the following paragraph:

Under the head of Irritative Overgrowth Adami says: "I have already dwelt upon the fast that substances which, in larger amounts and greater concentration, are toxic leading to degeneration of tissues of arrest of function, often, in small amounts, act as direct stimuli to cells, and one of the effects of stimulation of the cells to increased activity may be increased growth."

Whether the toxin leads to increased absorption and assimilation on its own part or whether it produces a nutritional hypertrophy due to the hyperemia does not concern us in the present work, but rather the more important fact that toxic iritation, small in amount and long continued can produce a growth of the tissues subjected to such an irritant. This being the opinion of Adami, a pathologist of the highest standing, my contention is that in the light of our present knowledge it does not seem unreasonable to assume that the toxins liberated by these mild germs cause the progressive chronic enlargement in elderly men. That there are other causes of prostatic enlargement such as true adenomata, fibromata, myomata, carcinomata, and sarcomata, I readily admit.

It also seems quite likely that the very small hard fibrous prostate is the result at least at times of a species of cicatrical change subsequent to very acute or destructive inflammation of the prostate.

All of the above mentioned enlargements are admittedly far less frequently encountered than is the ordinary form of prostatic hypertrophy.

I fully realize that the presence of these germs in prostate glands even when enlarged does not prove that they cause the enlargement. Nor do I think direct proof or disproof possible. I have collected therefore as much collateral and circumstantial evidence as was possible with reasonable effort, hoping that I might at least enlist the assistance of other investigators whose reports

and future observations might solve definitely this pathologic riddle and perhaps, lead to its satisfactory prophylactic treatment.

HISTORY.

Home thought the cause of prostatic hypertrophy to be the slow return of blood from the neck of the bladder, with a habitual congestion of the part. Sir Astley Cooper believed enlargement of the prostate to be the consequence of age. Velpau, Paget, and Billroth thought the hypertrophy a true tumor formation (Neoplasm). Brodie believed it a part of a general senile change. Thompson and many writers in the early part of the nineteenth century believed it to be of inflammatory origin. Guyon regarded it as merely a local manifestation of a disseminated arterial sclerosis of general atheroma. Reginald Harrison thought it the nature of a compensation hypertrophy to overcome the primary depression of the floor of the bladder. Sir Charles Bell asserted that an irritation of the bladder with a frequent contraction of this viscus resulted in prostatic hypertrophy. Ammusat claimed that it is observed most frequently in elderly men who have for a long time used sounds or bougies upon themselves (Lydston). Desault found it very common in elderly men who had numerous attacks of gonorrhea. Lydson says, "A certain amount of diffuse hyperplasia from prolonged hyperemia incidental to various causes of irritation probably exists in many men under middle age."

Sir Henry Thompson found prostatic hypertrophy in thirty-four per cent. of men after sixty years of age and that it produces manifest symptoms in about fifteen or sixteen per cent. of the cases in which it is enlarged. He thought it inflammatory. Virchow and Gouley believed that it was due to chronic inflammation which started in the glandular substances of the prostate.

Wilson claims that strict celibacy on the one hand, and venereal excess on the other are alike productive of hypertrophy though admitting exceptional cases in persons living abstemious lives.

The elder Gross laid great stress upon irritation and habitual engorgement as a cause of hypertrophy. Are not the majority of the observations in a way reconciled by the presence of the irritative infection of the prostate?

More recently Ciechanowsky reached the conclusion, from a study of pathologic histology of the enlarged prostate, that both the glandular and the fibrous overgrowths of the prostate are the long delayed results of gonorrhoeal inflammation, insidious in onset, slow in course and for many years perhaps entirely latent. Crandon, and Green and Brooks have made similar studies and reached the same conclusion.

In refuting Ciechanowsky's view Keyes has collected the histories of a large number of patients who have had prolonged attacks of gonorrhoea, but did not find that they showed any special tendency to prostatic hypertrophy. This, he says, taken in connection with the fact that every established genito-urinary practitioner can call to mind many prostatics, who he may be morally certain, never had gonorrhoea, seems to establish the fact that prostatic hypertrophy is not necessarily gonorrhoeal, but may be due to congestion of the sexual organs, sexual excess, or of continence, to gonorrhoea or simply to advancing years.

Casper asserts that neither the history of cases nor pathological investigation lends Ciechanowsky's theory support. In fact, the exact reverse is true. It is certain that there are men who have had gonorrhoea and prostatitis for years without the production of prostatic hypertrophy, and conversely, he says, he has known many persons with enlarged prostates who never had gonorrhoea.

Adams says, "We know, however, that the process begins in the neighborhood of the glandular elements."

Pathologic Histology: Examination of a microscopical field from an enlarged prostate shows most noticeably, as a rule, increase in the glandular structure. Some have thought that new acini were formed, as in the case of the true adenomata observed in the mamary gland, where the chief pathological change evident is the preponderance of glandular tissue over the normally present fibrous recticulum; but in the prostate the process does not appear to be one of true tumor formation, since the acini are merely dilated gland tubules which though previously present were then insignificant in size. (Deaver.)

Gouley says that the view of certain modern writers to regard chronic progressive enlargement of the prostate as a true adenoma is not in accord with our present definition of this term. Deaver asserts that "most recent writers have returned to the original view of an inflamatory cause and reject altogether the adenomatous theory." Deaver also says, "Nevertheless, practically every one is agreed there do exist two main pathological characters under which enlargement of the prostate gland is seen; one where there is a disproportionate increase in the glandular elements; and second where an increase in the stroma of the glands is conspicuous. In either case the co-exist, one exceeding the other in different parts of the same organ.

Young has observed from a study of sections of the prostate gland when inflamed that the "prostatitis is usually segmental in character, that is most marked about certain groups of glands, and it is this which often produces the irregularity of the surface and nodular condition which is found on palpation." This being true of prostatitis it would not seem unreasonable to assume a similar condition with different degrees of infection of various follicles would account for irregularities in the shape of the hypertrophied prostate.

Casper says, "Overgrowth of the glandular substance, however, is rare; it is usually destroyed, stroma being the portion which hypertrophies. I have, however, often

seen considerable enlargement of the prostate as early in life as the middle and even the beginning of the fourth decade." He thinks adenomata are very rare.

The fibromuscular overgrowth may appear as prominent nodules, or as a "diffuse fillamentous striation of a gray or white color."

A form of prostatic obstruction may result from inflammation which differs from the progressive enlargement in that the former is of small size and is firm or fibrous in consistency. It contains none of the lobulations of the true hypertrohpy. (Young.)

Such prostates may result from active inflammation where the round cell infiltration becomes transformed into fibrous tissue before it is absorbed or perhaps it may arise from a persistent subacute inflammation, which ultimately forms the fibrous prostate.

No given example of hypertrophy adheres strictly to any one type; indeed, it is the rule to find all three types existing in different parts of the specimen; in one place a diffuse soft enlargement, in another dense masses of fibrous tissue, and scattered everywhere enucleable tumors, large and small, the larger ones complex in structure." (Keyes' last edition). "These changes are due as we have seen in the preceding paragraphs to chronic interstitial fibrosis of the prostate; and, however, descriptive the terms adenoma and fibroma may be in this connection, we must remember , that in using them we do not refer, to true neoplasms, but to the pseudo-neoplasms resulting from inflammation of the gland.

ORGANISMS.

In my own work as well as in nearly all of the reports and writings which I have consulted there is a significant uniformity in the frequency with which colon bacilli and staphylococci are found in the genito-urinary organs.

In fact, so great is the preponderance of these organisms that all others sink into a relative insignificance.

The culture of thirty-one patients with sub-chronic

prostatic inffammation grown for me by Dr. Edgar Paullin (to whom I am under many obligations for his skillful service in isolating and identifying these organisms) showed germs belonging to one or both of these groups in every instance.

The staphylococci albus grew in the cultures of fourteen patients; staphylococcus aureus in ten; the colon bacillus in ten; staphylococcus citrius in one; the staphylococci alone were found in fifteen; colon bacilli alone in nine and were mixed in seven; the staphylococcus aureus and albus were found together in six.

These observations are in accord with most of the work done by others in determining the kind of germs present in bacteriuria and genito-urinary infections.

At times the colon baccilli assumed the coccial form when first grown but later developed their usual form. This account for some of the motile cocci; I think, too, the motile colon bacilli also cause the staphylococci to seem to be motile when in reality they are being knocked around by the myriads of colon bacilli.

Neither my own work nor that of most writers on this subject prove absolutely from the culture that these germs which grow are from the prostate gland, as the urethra especially the anterior portion is always infected to a greater or less extent with a large variety of organisms.

It is not, however, upon the cultures that I have depended to determine the presence of the millions of bacteria in the prostatic secretion, but upon microscopic preparations after thorough irrigation of the urethra and bladder. Though cultures were made from thirty-one patients.

Cohn made cultures from twelve cases of prostatitis using the following methods: "Irrigate the outer urethra with boric acid till the fluid flows away clear; insert a sterile endoscopic tube in the urethra as far as the bulb —dry it with sterile cotton; massage the prostate gland; finally transfer the secretion from the tube to the culture by a platinum loop or a pledget of cotton."

He found the staphylococcus albus eleven times, streplococci three times, colon bacilli, once and a gram positive diplobacillus twice and an unrecognized bacillus once.

Nottshaft, grew cultures from 120 cases of chronic prostatitis: which presented themselves from twelve to thirty years after the last gonorrhoea and besides the gonococci he found micrococci 119 times, bacilli fifteen times and other bacteria fourteen times.

His technique was as follows: After the patient had urinated, the urethra and bladder were irrigated with boric acid, then with physiological salt solution. The glands penis was "disinfected" then the prostate was massaged and the secretion caught, as it appeared at the meatus, in a sterile vessel. Both cultures and smears were made.

Saxe reported 150 cases of gonorrhoeal infections from six months to eighteen years duration. Of the 108 cases with prostatitis 27.7 per cent. showed gonococci in the prostatic secretion. Mixed infection was found in the prostate in 86 per cent. of the patients. Staphylococci 74 per cent., diplococci 10 per cent., and streptococci in 7.6 per cent. He says that thirteen cases showed absolutely clear urine although the smears showed prostatic infection.

As further proof that these infections often follow acute gonorrhoea, I quote the following from Keyes: "The gonococcus alone, unaided by any pre-determining cause, may excite an acute cystitis; in such cystitis the urine is acid and this purely gonorrhoeal cystitis recovers or is replaced by a secondary mixed infection so that the gonococci, if still present, can no longer be found. Hence that striking clinical condition, acute gonorrhoeal cystitis, may be accepted as purely gonococcal in origin; while nearly all of the chronic manifestations in the bladder are due to secondary infection by those bacilli coli and pyogenic cocci that everywhere follow in the wake of the gonococcus to perpetuate the inflammation inaugurated by it." (Keyes.)

Posner says, "Today it is recognized that without any external interference and without any involvement of the neighboring organs urinary infection may occur."

Anders asserts that there are probably few specimens of urine that do not contain bacteria.

Reymond and Van Calcar believe the colon bacilli pass directly out of the rectum and into the bladder where there is constipation or other intestinal obstruction.

Speaking of the prostatic type of bacteriuria, Keyes says, "there may or may not be prostatic hypertrophy." This would appear to show that he has seen it in hypertrophy. He says the distinction between pyelonephritic and prostatic bacteriuria may not be easy in a given case. "Indeed the two may doubtless coexist. Yet an alkaline bacteriuria is almost invariably prostatic, a bacteriuria following gonorrhoea or due to instrumentation or to stricture is probably prostatic. A bacteriuria occurring during the course of a prostatitis or of a prostatic hypertrohpy is doubtless prostatic. Finally, the expressed prostatic secretion after urethral and vesical irrigation will be found to contain the increminated bacteria in great number if the bacteriuria is prostatic.

Corner has had the urethral discharge examined in fifty cases and found gonococci in 46 per cent. and other organisms in 54 per cent. Among the latter colon bacilli, and staphylococci were found to predominate.

In discussing bacteriuria, Geraghty says, "It is well known that both the staphylococcus albus and the bacillus coli communis may have little or no pathogenicity, and this explains to a certain extent why the growth and persistence in the urinary tract (of the germs) occur without producing inflammatory phenomena."

Whiteside, emphasizing the importance of non-venerial infections of the urinary tract other than tuberculous has recently asserted that non-specific infections are more common than is general supposed, and that the severity of the symptoms ranges all the way from the very transitory irritations to chronic cystitis. In many of these he

has found that the "colon bacillus is the infecting germ, in others the staphylococcus albus, the pneumococcus and a short square ended bacillus, may be found in pure culture, or sometimes two or more kinds together."

Young says, "It seems probable that multiple infection is not uncommon."

Chute has collected and reported cases of alkaline bacteriuria and mild infections due to staphylococcus pyogenes albus. In these no ammonical decomposition occurred. Gassman reported a case of cocciuria associated with seminal vesiculitis and double epididymitis.

Krogius reported two cases of bacteriuria with prostatitis as a probable cause, and Goldberg, one such case accompanying seminal vesiculitis. Young remarks many surgeons can recall similar instances in their work.

In the fifth annual report of the Henry Phipps Institute, it is recorded that in 185 kidneys, which were examined bacteriologically and cultures grown, micro-organisms were found in eighty-two, while none were found in 103—streptococci 28%, staphylococcus aureus 8.5, bacterium coli communis 48.8—(this last was the most common during the last year, being found eleven times out of twenty positive cultures, total number being examined sixty-two.)

Typhoid bacteriuria occurs in from fifteen to thirty per cent. of all cases of typhoid fever and while the bacilli usually spontaneously disappear from the urine they may remain for years. The urine is acid and closely resembles that of bacillus coli bacteriuria. (Keyes.)

In discussing Rovsing's view that colon bacilli never cause cystitis, Keyes says, "numerous attested cases of cystitis prove it, (the colon bacillius) is not always as innocent as Rovsing believes. Keyes records in a footnote, "these usually originate from a bacillus coli prostatitis.") While the increasing number of reported cases of bacteriuria containing bacillus coli in pure culture show

that its venom has been over estimated in the opposite camp." (Melchoir and Albarran and Halle, who assailed Rovsing's position.)

BACTERIURIA.

Bacteriuria was first described in 1881 by Roberts, since then, an increasing number of observations have been reported and the condition studied by many workers, especially Rovsing (Die Infektiosen der Harnorgane, 1898) Kroguis, Janet, Jeanbrau, Geraghty and others have recognized its not infrequent occurrence.

The term bacteriuria is limited to conditions characterized by the presence of enormous numbers of bacteria in the freshly voided urine without any pronounced symptoms of inflammation of the urinary tract. Rovsing has observed two types of the affection, one in which the urine absolutely free from pus, another in which a few pus cells are present, but the peculiar cloudiness of the urine due to bacteria. The writer has distinguished these two types both in the prostatic infections and in renal or bladder bacteriuria.

Of bacteriuria Casper says, "Many of the organisms are merely excreted in the urine, having their origin in the distant parts of the body and passing through the kidneys into the bladder without causing disease of the latter organ."

Fresh normal urine is sterile.

For a number of years I have observed patients with sexual hyperesthesia or the so-called sexual neuroses, without demonstrable lesions to account for the persistence of the symptoms. Rarely did smears of the prostatic secretion show sufficient organisms to lead me to believe the germs to be the cause of the trouble. In studying the prostatic secretion of these patients, however, with the Reichert dark field illuminator, my attention was at once strikingly focussed upon a large number of motile organisms frequently seen in specimens free from pus

cells. Later, I found that a drop of this discharge mixed with a one per cent. aqueous solution of dahlia over which was placed a cover glass, enabled me to see more readily these actively motile organisms. Since that time, about 140 patients have been examined in this manner, to determine if there was a bacteriuria or prostatic infection. In the present report I have not included the patients where pus was present except in small amounts as such cases come under the heading of the inflammatory conditions which are much better understood than are these "subchronic" infections.

In 110 patients with very mild genito-urinary irritation or slight affections of the sexual organs a large number of mildly pathogenic organisms were observed in the prostate glands, seminal vesicles or in the urine. Cultures of thirty-one of these showed the germs to belong to the colon bacillus group or to the staphylococcus group. A surprising uniform and well defined symptom complex was found to attend these infections.

Etiology: Usually the origin or at least a possible source of the infection could be found in the past history of the patient. Gonorrhoeal urethritis and instrumentation seemed to be the most likely and the most frequent of the possible causes.

Probably three-fourths of the patients gave a history of acute inflammation of the urethra which has been apparently cured or almost cured and yet at times a little irritation would develop at the neck of the bladder at more or less frequent intervals and lead the patient to believe that he was uncured and about to have a recrudescence of the original gonorrhoea. Not infrequently there was a history of the passage of sounds for a considerable period of time and often with temporary relief of the "uneasy" feeling in the urethra (of course urethral strictures have been excluded from this report). Very frequently there were evidences of rectal or anal lesions such as hemorrhoids, fissures, fistulae, ulcerations, pruritus ani, etc. Ten patients with enormous numbers of these

mildly pathogenic organisms in the prostate gave no history of urethral inflammation of any kind or of urethral instrumentation but they all admitted having indulged to excess in masturbation, prolonged ungratified sexual excitement or having remained continent for a prolonged time.

Anything which produces a continued congestion of the genital organs seems to act as a caustive factor and to favor the development of prostatic and vesicular infections. Rovsing (Sixteenth International Medical Congress, Brussels, Hungary) has reported 285 cases of colon bacillus infections of the urinary passages: in 180 the disease arose as an acute nephritis or hydro-nephritis in patients who had never been catheterized. He believes that in many cases the colon bacillus reached the urinary organs through the blood stream, and that some of the starting points were tonsilitis, cholecystitis, acute enteritis, appendicitis, colitis, cancer of the colon and typhoid fever.

Fuller, speaking of colon bacilli in the chronic inflammations of the seminal vesicles, says, they are to be expected in nearly all such cases. "A seminal vesicle which long remains pathologic from any primary cause can hardly escape colon bacillus infection, owing to its position in close apposition to the rectal walls."

The same probably is true of the chronically congested prostate gland and this probability is greatly increased if we bear in mind the additional danger of infection from the urine, from kidneys diseased as those reported by Rovsing, or from organisms of hemotogenous origin passing through healthy kidneys.

With all of these possible sources of infection one hesitates to express an opinion as to which is actually the most frequent one. Raymond and Van Calcar go even further and claim that colon bacilli pass directly through the rectal wall into the bladder when there is constipation or rather intestinal obstruction.

Symptoms: The symptoms are usually those of a very mild urethritis with a little irritation at the neck of the bladder and mild symptoms sometimes refered from this region. A very common symptom is itching in the urethra, not severe as a rule but often returning without any apparent reason. The patients also frequently complained of a sensation as if discharge were escaping from the urethra and yet upon examination no discharge would be found. Occasionally sharp fleeting pains were observed in the urethra penis or prostrate. A "morning drop" of mucus or muco pus was found in some of the patients while in others it was persistently absent.

Well marked sexual impotence was found in ten out of the 110 patients about seventy-two experienced premature ejaculation and a few complained of pain or burning in the deep urethra during or immediately after organism.

Mild rheumatism involving the knee, hip, shoulder, wrist, ankle, and other joints was observed in twenty-five patients. The rheumatism was characterized by its mildness and persistency being amenable to no ordinary form of antirheumatic treatment. Slight pain or aching in the lower part of the back was of frequent occurrence and was of the character often seen in chronic prostatitis.

The conditions I have previously considered, sexual neuroses, and hyperesthesia, where the disturbance was all out of proportion to the inflammatory products, have in every instance shown the prostate to be infected with these mild organisms.

Urine: In about sixty-nine of the patients the urine showed a few mucus shreds; in about twenty it was macroscopically clear but at times it would become slightly cloudy or opalescent about like urine in which there is a slight precipitation of phosphates.

This cloudiness was due to micro-organisms which at times caused the urine to have an unusually disagreeable odor, especially if it was allowed to stand for any length

of time. A number of observers have found that bacteriuria, due to colon bacilli produces an acid urine, but when due to staphylococci it is likely to be alkaline. This as a rule has been confirmed but exceptions are not unusual. Neither filtration nor centrifugation will clear the urine of this cloudiness.

Prostate Gland: The size of the prostate seemed to vary almost always directly in proportion to duration of the infection in the patients where a definite history could be obtained as to the approximate date of the infection. In some patients it was impossible to estimate the duration of the trouble. The age of the patients was from nineteen to sixty-five nearly all of the older ones showed distinct increase in size; while several patients between forty and sixty-five with well marked hypertrophy, but free from pus infections showed large numbers of germs although the urine was macroscopically clear. I have not yet seen a patient with an uninflammed hypertrophied gland from which the secretion did not show an infection.

Unfortunately many of the patients with well developed hypertrophy and pyogenic infection with true inflammation of the bladder urethra or bladder and were thus excluded from the class of patients included in this report, as these changes are secondary to the hypertrophy. It is from the beginning enlargement rather than from the fully developed cases that our studies of the etiology will be productive of results. Where there was not a distinct enlargement as in the older men examined, there was generally a sensation of firmness rather of "bogginess" or "congestion" observed in chronic inflammations; while others appeared to be of normal size, and some even smaller than usual. The patients nearly always complained of undue tenderness of the glands during the massage.

The secretion, as a rule, was rather small in amount and looked much like diluted milk.

A peculiar feature was that the large acutely inflamed glands, as a rule, showed very few germs and in the secretion from chronic inflammation the organisms rarely were as numerous as in that which was free from pus. While this was almost always true of the prostate it was variable in the urethral and bladder inflammations as here sometimes millions of organisms were present with much pus.

One of the most significant cases was a patient, twenty-nine years of age, with epispadias, the entire roof of the urethra being deficient. The prostate was about three times the normal size and reeking with millions of germs, but no pus was present. A glance at the fertile soil afforded by the urethra and moist mucosa was sufficient to convince one that the deeper parts must of necessity have been infected in childhood or early youth if not during infancy.

Technic: An irrigation of the urethra and bladder is given according to the Janet-Valentine method with a normal saline solution until one or two quarts of the solution has been used. Having the bladder partly filled with the irrigating fluid, the prostate is then massaged and a drop of the secretion which appears at the meatus is placed on a slide a drop of a freshly prepared one per cent. aqueous solution dahlia is mixed with this drop of secretion. A cover glass is then placed over it is sealed in place by applying melted white wax around its rim with a camel's hair brush. As a confusing precipitate forms, at times and especially when the specimen contains urine, it should be placed under the lens of the microscope and allowed to remain in this position for fifteen or twenty minutes or longer to allow the precipitate to settle to the bottom and become quiet otherwise the Brownian movement of these minute bodies might be mistaken for motile organisms.

The germs remain motile for a few days to a week and a positive diagnosis may be easily made by a series of subsequent examinations, when their motility different-

iates them from the debris which settles and becomes motionless. If preferred, the specimen may be viewed with the dark field illumination and the diagnosis thus made. Fixed smears may also be made and stained in the usual manner but these rarely give a accurate idea of the presence of micro-organisms as does the above method.

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THE IMPORTANCE OF THE GENERAL PRACTITIONER PAYING MORE ATTENTION TO DISEASED CONDITIONS OF THE NOSE AND THROAT.

M. F. Carson, M.D., Griffin, Ga.

A few years ago I read a paper before our State Medical Association urging the importance of an early diagnosis of adenoids and diseased tonsils. At that time I laid special stress on cleanliness and local applications, and the important part that the pressure of air passing through the nose played in the development of naso pharynx. I was inclined to discourage the practice of removing all chronic enlarged tonsils as well as adenoids. Since my practice and observation have convinced me that these diseased conditions are responsible for many cases of general tuberculosis, I always urge the removal of these organs when diseased.

We will first consider the mechanical factors that determine the form and development of the nasal cavities usually called the naso Pharynx. We shall then be better able to formulate principles on which our methods of treatment may be based.

The main functions of the naso pharynx are to transmit air into the lungs, in order that the sensitive surface of its mucuos covering may become affected by substances contained in it. The upper part of the naso pharynx is constructed essentially for the purpose of smell. The olfactory nerve is distributed to the upper portion of the nasal cavities and the current of air distributed over this area by the act of sniffing.

During natural respiration the mouth is kept closed. During normal respiration the air passes through the

lower part of the meatus, while there is practically no current in the upper portion of the cavity it is, therefore, very obvious that any obstruction of the lower nasal cavities will reduce their capacity for transmitting air to the lungs, and as a direct result the patient breathes through the mouth. When respiration is performed through the mouth the most important part of the function of the nose is lost and the forces that act normally to develop it are held in abeyance. If we examine a vertical section of the nasal cavities we will find that the caliber of the lower part of the cavities is encroached upon by any ascent of the hard palate above its normal line and that the air transmitting capacity of the naso pharynx varies inversely to the height of the palate. The caliber of the entire nasal space is very much affected by the least variation in the interval between the nasal septum and the structure forming the outer wall of the space. We are all too familiar with these cases of imperfect development of the nasal cavities. I believe that if we would exclude these diseases of the lungs, larynx, ear and nose, which are either directly or indirectly the result of imperfect development of the naso pharynx, a not unimportant part of the treatment of the disease of these organs could be left out of our next books. We should carefully consider the factors which are responsible for such lack of development.

I have in my practice seen many poorly developed nasal passages that were inherited; I am confident that the transmission of this deformity is very direct. An infected mucous membrane, too often called an ordinary cold in the head, is responsible for the beginning of permanent nasal obstruction. The inflammation, or cold in the head, produces swelling of the mucous membrane and necessitates mouth breathing. This at once deprives the naso pharynx of that factor on which it is dependent for its development—the pressure of air on its walls. As a result it ceases to develop.

The interval which separates the septum and the outer wall of the space remains stationary. The septum between the mouth and the nose ceases to descend, the arch of the palate remains abnormally high. This infected mucous membrane produces inflammation of the lymphatics in the pharynx; later the lymphatics of the neck which gather the lymp from the membrane; then the tonsils, larnyx, trachae, bronchial tubes and lungs.

We are all too familiar with middle ear trouble caused mainly by the enlargement of the lymphoid tissue. These enlarged cervical glands are a fertile soil for the growth and multiplication of tubercular bacilli. These little growths in the nasal cavity are called adenoids and are beginning to be regarded, and rightly so, with considerable dread.

As a result of the lack of oxygen going to the lungs, we have, in my opinion, many deformities, such as spinal curvature and deformities in bones. I am not prepared to say what proportion of all cases of tuberculosis presents these conditions, viz.: Adenoids, enlarged tonsils, but I do know that in my own practice I have kept a record of twelve cases of tuberculosis; eleven of these cases presented a history of one or more acute attacks of tonsilitis, and every case the tonsils were chronically enlarged; out of these twelve cases I removed the tonsils from three, microscopic examinations of all three specimens showed tubercular bacilli. Out of the twelve, eight were mouth breathers with the floor of the post nares studded with adenoids.

It should be quite apparent that the removal of these little growths is absolutely essential in order to restore to the nose that mechanical factor upon which its growth and development depends.

These patients do not have the vigor and strength to throw off the primary infection by expelling the accumulated mucous often loaded with tubercular bacilli, and receiving fresh oxygen into the nose. They are very much alike in many respects. Their vitality is low, there

is a total absense of energy, they avoid activity, the amount of air they change is small, and is produced by the action of the diaphragm. Such a lowered vitality offers a splendid opportunity for the invasion of tubercular bacilli. I believe the general practitioner too often neglects these conditions. How often are we called to see children with infected mucous membrane, enlarged tonsils with a light fever and pronounce the case as threatened with pneumonia.

We give a cathartic and something to reduce the temperature and probably see the case no more, when we should have it come to our office for a thorough examination, and if we are not prepared to remove the obstruction it is our duty to send them to a specialist for treatment. I am confident that every inflammed or infected mucous membrane snould be treated, that adenoids should be removed as early as possible, that all nasal obstructions should be removed as early as detected, and that all diseased tonsils should be removed. This done, I am confident that one of the main avenues through which tubercular bacilli enter the human system would be removed.

Now just a word as to the treatment of these cases. We should first endeavor to cleanse the mucous membrane of the post nasal cavity, and for the general practitioner there is no better cleansing agent than a normal salt solution, with forty-pound pressure from a compressed air tank, after thoroughly douching the cavity, an oily spray with liquid alboline as a base is applied to the membrane. If this treatment is kept up a sufficient length of time we can often relieve an acute condition that would otherwise result in nasal obstruction. If after such treatment permanent obstruction remains it should be removed. As to the treatment of diseased tonsils and ulcerated throats, I am confident that there is no remedy that compares with a strong solution of nitrate of silver. I have yet to see a chronic enlarged tonsil reduced to its

normal size by any treatment, and believe that they should be removed.

I use nitrate of silver ten to twenty grains per ounce for ordinary applications. The pure stick for applications to ulcers. The advantage of applying pure cautery to these ulcers is that it is the proper treatment whether the case be tubercular or not. I know in two cases I removed a tubercular ulcer, one of uvula and one of larynx with nitrate of silver stick. I know both were tubercular for both afterwards died of tuberculosis.

Now, gentlemen, there is nothing new or very interesting in this paper. My aim in presenting it is to emphasize the importance of the general practitioner giving more attention to this class of work, for there is a great per cent. of these cases that can never reach a specialist and consequently suffer through their ignorance and our neglect.

DISCUSSION

Dr. Crook, Columbus. This is a most interesting subject to me. Recently I have gone over some of the records of my cases of adenoids and tonsils, and I have become very much interested in this question of tuberculosis, that is, the question of the tubercle bacilli gaining an entrance through the tonsils. I had one case four weeks ago, a little girl who gave a family history of tuberculosis. She had a very marked case of cervical adenitis, very suspicious looking tonsils, and some adenoids, and I felt sure that here was the beginning of her tuberculosis, or cervical adenitis. But an examination of the tonsils microscopically did not reveal any tubercle bacilli. However, if such a case fell into the hands of some surgeons, they might have removed those glands. So soon as the tonsils were removed in toto the cervical adenitis disappeared. Some cases of tuberculosis seem to have been infected through the tonsils. I wish to mention one case I recently saw, a very marked case of adenitis. The

patient was a child nearly three years old, and she had her adenoids and tonsils removed. But before the operation I noticed that the child had a very marked sunken nose. I supposed it was a congenial affair and did not pay much attention to it. However, the mother called my attention to it eight days after the operation. The child's face was almost normal in appearance. I said to the mother, "Have you noticed any change in the expression of the child's face?" She answered, "I noticed a change on the second day after the operation." I do not see how it is possible that such a change could take place in the child in such a short time. The general practitioner does not always appreciate the importance of removing adenoids and tonsils in toto.

Dr. Adair, Atlanta: This subject is one of vast importance to the general practitioner and the paper just read is a very timely one. The greneral practitioner a few years ago neglected to make examinations for adenoids and enlarged tonsils. Not long ago I talked with a man from Chicago and he showed me some anatomical specimens of sections of the head; they showed the deformities these children had to bear because these things had not been attended to. This set me to thinking. The last year or two I have examined every mouth of every patient who appears before me and I find a vast amount of trouble in children and young people, especially in Atlanta, that otherwise would have escaped attention. The results of the medical examination by the Medical Inspectors in schools are simply astounding as showing the number of children who are diseased. The general practitioner should wake up. These examinations often will reveal the cause of so many facial blemishes, the lack of beauty, often a face absolutely destroyed of beauty because of the presence of adenoids or other removable conditions. If the general practitioners do not see these things, the specialists do. Recently I read a paper be-

fore the Fulton County Society on "Medico-Surgical Operations", in which I gave the cost of an outfit for the removal of tonsils. Any physician can get such a outfit for the removal of tonsils for from two to five dollars.

SUBPARIETAL INJURIES OF THE KIDNEYS, WITH REPORT OF A CASE REQUIRING IMMEDIATE NEPHRECTOMY.

C. W. Roberts, M.D., Douglas, Ga.

It would seem from the study of this subject that there are two principal reasons for the comparatively low proportion of injuries to the kidney when contrasted with that of other abdominal viscera. Hidden deeply in the recesses of the abdomen the kidney is protected from traumatism, which anatomic reason is reinforced by the fact that the organ lies deeply imbedded in a large quantity of loose fatty tissue, acting as a bluffer against blows upon the lion or ileo-costal region. Thus in a report of two thousand six hundred and ten deaths from injury recorded by one investigator, there were thirteen instances of injured kidneys.

The kidney suffers injury from direct and indirect violence, constituting the class of cases generally spoken of as subparietal. In this class the soft parts, or abdominal parities, escape laceration, the damage resulting from crushes and blows upon the kidney region (direct violence) or from indirect violence, as in falls from a height accompanied by sudden bending of the trunk at the time of alighting, crushing the kidneys between the costal margin and the iliac crest. Another class of injuries to this organ are designated penetrating, embodying all those resulting from wounds extending through the soft parts to the kidney, seen most often in the military practice. By far the most frequent variety, however, is the former, seen in civil practice, and not unfamiliar to the majority of physicians who have labored for a few years in applica-

tion of our art. Subparietal injuries of this organ vary from slight contusions to rupture or even pulpefaction. Lacerations may be single or multiple, the rent being transverse in most instances. Severe cases often show complete separation into an upper and lower portion. It has been observed that when numerous superficial lacerations exist, there are usually adjacent organs involved which must receive consideration. Such injuries to the kidney, notwithstanding, are not nearly so serious as rupture of intraperitoneal organs, owing to the fact that its anterior surface only, is covered by peritoneum. We are able thus to explain why the majority of cases reported show extravisation of blood and urine outside the peritoneal cavity, a fact unfortunately, not born out in the one to be considered, and which complication, when it does exist, renders the case of the most serious nature, placing it as regards prognosis in the category of injuries to intraperitoneal organs.

Symtoms: The symtoms which a given case would present will depend, as is evident, upon the degree of damage sustained by the kidney substance. There is always a history of injury of more or less severity. If there is present simply pain and tenderness with frequent micturition and a slight haematuria without the rapid formation of a tumor about the injured organ, or the superaddition of signs of shock, the case may be put down as belonging to the more frequent variety of simple injuries. If, however, added to the preceeding symptoms, the patient develops the familiar signs of shock and hemorrhage,—ie—depression in force of heart beat followed by increased rapidity, paleness of the skin, subnormal temperature, nausea, vomiting, thirst, air-hunger, restlessness, etc., the surgeon must recognize that he has to deal with the more serious type of kidney traumatism.

Haematuria, although the most constant symptom of renal injury cannot be relied upon as an index to the severity or pathognomonic of such injury. While it is always present in some degree, when there has been lacera-

tion of tissue, or even following severe contusion without actual separation of continuity of parts, taken alone it is misleading. Thus, in a given case there may be persistent extravisation of blood and haematuria accompanying a slight contusion or laceration, while again the most severe disorganization will not manifest itself by this symptom. It behooves us therefore in reaching a decision as to the proper course to pursue in the treatment of these, as well as all other maladies to which the human flesh is heir to consider the signs and symptoms as a whole with special emphasis upon none, but due regard to all.

Complications: Unless a fatal termination quickly issues from hemorrhage or collapse, certain complications soon arise, bringing additional symptoms to be met. A very common one is cystitis, seen in neglected cases of persistent haematuria. Clots of blood have been allowed to remain in the bladder for weeks, setting up a troublesome inflamation of its walls, and in a few sound kidported, causing ascending infections of the sound kidney, followed by anuria and death. Moreover, perinephritic abscess results from extravisation of blood and urine. The presence of a large quantity of fats surrounding the kidney predisposes to this complication since its blood supply is limited. Unless free incision, established without delay, furnishes drainage, this condition may become wide-spread, finally exhausting the patient from local absorption and general toxemia. When less happily, the rent in the kidney extends through the peritoneal covering on its anterior surface, a very dangerous complication insues precipitated by the ready intrance into the abdominal cavity of blood and urine establishing the much dreaded and fatal peritonitis.

Diagnosis: As has been stated previously there is no pathognomonic symptom of subparietal injury to the kidney. Given the history of a fall or blow sufficient to produce deepseated injury, with pain following down the ureter, tenderness on palpation over the renal area, haematuria that persists after the bladder has been well

washed out in an individual whose past history is negative, we are justified in giving treatment directed at such lesion. If, in addition to these symptoms, the patient rapidly developes signs of shock and hemorrhage with rapid formation of a tumor about the injured kidney, a positive diagnosis may be ventured.

Prognosis: The prognosis likewise will depend upon the given case. Authors generally have been led to suppose that this class of injuries are fraught with more danger than the work of more recent investigators would confirm. In simple contusions and lacerations the prognosis is favorable . In the class attended by severe shock, hemorrhage, wide-spread infection, et cetera, an unfavorable termination is seen in more than fifty per cent. of cases although subjected to the most appropriate means of relief.

Treatment: Bearing in mind that hemorrhage and extravisation of urine in and around the kidney, offers the principal obstacle to be combatted as well as inaugurating the complications mentioned above, the question of treatment resolves itself into the successful management of this one exigency. Hence, in simple cases, absolute rest in bed, strapping of affected side, application of ice caps morphia and ergot hypodermically, the avoidance of purgation and vomiting, all directed at controlling hemorrhage should be at once instituted. As a prophylactic measure against cystitis, the bladder should be frequently washed out with normal saline solution. Little, other than this, need be done unless the case prove from the first to be of the more severe type. If collapse from hemorrhage or peritonitis threatens nothing short of surgical interference will give satisfactory results and a free incision down to the bleeding tissues should be made at once, the hemorrhage controlled and the kidney resected if it is found disorganized. If peritoneal cavity has been contaminated with blood and urine, the abdomen must be opened, thoroughly washed out and drainage established. When surgical treatment is indi-

cated it would appear from a careful study of case reports that the best results are gotten in those where early interference has been resorted to, drainage being afforded ere perinephritic or peritoneal inflammation has begun. If, not withstanding your efforts to prevent it, there be retained coagula with chronic cystitis, resort must be had to some form of lithotomy for removal and drainage. Immediately following the injury, if shock and collapse is present, various supporting measures should be used such as strychnia, atrophine, whiskey and heat. These must be discontinued, however, as soon as the condition requiring them has been somewhat overcome as they favor hemorrhage. It may become necessary to use some form of diuretic, in which case the refrigerant, or irritating drugs would be preferred, but even these should be avoided if possible. Since the injured kidney is incapable of performing its normal functions, placing upon one organ the work of two, the diet should be carefully watched, consisting principally of liquids, until the efficiency of the remaining organ has been well proven.

The following case requiring immediate operation came under my observation in June, 1908.

Patient, J. M. C., age 46, farmer. Injured 5:00 p. m., above date. Past history: was born in Georgia, reared upon a farm and had always been in good health, being noted as one of the strongest men of the county. Some twelve years ago, while walking through the woods with an axe upon his shoulder, a falling limb from the top of a tree under which he was passing, struck the axe, driving it forcibly against the right occipital region, producing a fissue fracture of the vault, accompanied by considerable concusssion of the brain. After some weeks confinement to the house during which time patient gradually recovered from what at first appeared to be a very serious brain injury, he again assumed the duties of his farm, having made complete recovery. Operative measures were not instituted, the expectant plan having been

pursued. Health at time of injury was good; patient had been well for many years with the exception of a slight disturbance of digestion. Weight, 165 pounds. Height, five feet seven inches.

History of Injury: About 5 p. m., June 28, 1908, patient was riding a bare-back horse, at full speed down a hard lane, trying to round up a calf. On making a right angled turn, he was thrown with terriffc force against the ground, the body being doubled upon itself on alighting. An attempt was made to get up, but soon abandoned. Later, by the help of two of his children, he managed to get to his house some hundred yards distant. I was then summoned.

Upon arrival, some twenty minutes after injury, patient was rolling from side to side of his bed, extremely restless, very pale, extremities cold, and bathed in perspiration, complaining of feeling chilly. The pulse was at first impercepitible, but soon became evident, observed to be weak, of very feeble tone, and about eighty-five per minute. Respiration caused pain, and was therefore jerky and restrained. Nausea and vomiting quickly ensued; patient complained of marked pain about the junction of the 11th and 12th ribs, with spinal column and from thence to the iliac crest on right side. All over the right kidney region, palpation was very painful and the tissues board-like. The right hypochondrium was also resistant and painful to the palpating hand. The skin was not bruised, not even an abrasion to be seen, save in right side of face over malar bone, where an area, size of the half palm was noted. The left wrist was slightly sprained. Further than this nothing was made out worthy of notice. Morphia and strychnia was administered hypodermically to control pain and quiet the patient. There was no desire to urinate immediately after injury, but later patient called for urinal, only to strain without voiding. One hour after arrival patient's pulse was ninety-six, more feeble, vomiting was persistant, expression bad, collapse more marked. A catheter

was now introduced into the bladder when bright red blood escaped in large quantity. The bladder was then tested and found to hold water. The kidney region was more resistant by this time, the hardness extending over the whole right abdomen. Patient complained of inability to get breath, and great thirst. A diagnosis of ruptured kidney with intraperitoneal hemorrhage was now made and steps looking towards surgical help were taken. Being more than twenty-four hours removed from well equipped hospitals, in addition to the precarious condition of the patient, which was hourly becoming worse, it was determined to operate upon him in his home with whatever aid could be readily summoned.

It was noon the following day before all preparations were ready. Every hour had witnessed the rapid sinking of the patient, haematuria had continued well marked. A tumor was easily made out about injured kidney. The abdomen was dull to percussion, painful all over to palpation. Patient was semi-comatose, pulse one hundred and forty, respiration, ten (due to morphia), temperature one hundred, three-fifths. Vomiting had become more frequent; collapse well marked.

Operation. After a distinctly rural operating room and equipment had been prepared, there being marked abbreviation, both in quality and quantity of instruments and dressings, with the aid of three other physicians, two or three laymen acting as nurses, the patient, now moribund, was placed upon the table. The right kidney was hastily exposed by the ordinary lumber incision. It was found imbedded in and surrounded by blood, its capsule being stripped off by its entravisation. A rent partially dividing the kidney into halves, extending into the hylum, was made out by the palpating hand. The patient's condition being such as to demand the quickest disposition of the condition at hand, it being necessary already to heroically stimulate by strychnia and whiskey, hypodermically as well as normal salt intravenously, clamps were placed on the renal vessels, the

ureter severed, and the kidney removed. The clots of blood surrounding the kidney having been removed, the cavity was packed with gauze and the wound partially sewed up. As an index to the degree of exsanguination present, I need simply mention that it was unnecessary to liligate or clamp a single vessel, save the renals.

Now, the patient was hastily turned on his back and the abdomen opened. The peritoneal cavity contained several hundred cubic centimeters of bloody fluid which was washed out with normal saline solution.

Drainage wicks were again placed, and both wounds dressed. After some twenty minutes work directed at overcoming the shock which was now alarming in the extreme, the patient was removed to his bed, showing signs of slight reaction.

After Treatment and Convalescence: Stimulation was kept up and pushed to point of intollerance. Repeated infusions were given. Slowly, response became evident, the pulse gained in tone and rythm. Urine was soon voided and contained only a trace of blood. No post-operative vomiting. The day following operation found the patient in encouraging condition. Mentally good, urine voided in sufficient quantities, no further signs of bleeding. Pulse fairly strong, regular and running about one hundred to the minute. Wounds draining nicely. No evidence of peritoneal inflammation.

On the third day, the wounds were dressed, clamps removed and the cavities repacked. Convalescence was at this time well established. The daily output of urine was normal in amount and constituents, save a decided ring of albumin, which was interpreted as "Congestive Albuminuria," and which soon disappeared. Patient began eating, the nourishment confined altogether to liquids. Bowels moved normally, pulse came down to 85, temperature remained around normal, reaching 100 only twice or three time during convalescence. Patient was urged from the first to drink large quantities of water. Notwithstanding this, and the preliminary blad-

der irrigation, a mild degree of cystitis developed about the tenth day, causing considerable temporary trouble, but was quickly controlled by the use of twenty grains of hexamethylinamine per day gradually decreased. This a slight annoyance was the only complication noted during the eight weeks indoors. Following this, his recovery was uninterrupted. Daily dressing of wounds witnessed rapid healing. Patient was kept in bed five weeks, then allowed in a reclining chair. At the end of six weeks was put on his feet.

At present, patient is going about his farm free from pain or inconvenience of any kind. Now, nearly two years since the injury, patient presents a most gratifying appearance, his mode of life being little changed from that preceeding the fall.

I want especially to invite attention to the following facts concerning this case:

First: The severity of the lesion found, there being no adjacent structures involved.

Second: The apparent absolute indication for operation at once under rural handicap, it being considered impossible to transport the patient, alive, to the nearest hospital.

Third: The absence of infection, although the perenephritic space and peritoneal cavity were both contaminated with urine, to be explained perhaps by the early establishment of drainage.

Fourth: The marked albuminuria which developed early after operation, only to gradually disappear as the compensatory action of the sound kidney was established.

DISCUSSION

Dr. W. W. Battey, Jr., Augusta: The statement has been made that the peritoneal cavity should have a ready escape for the urine and blood after these operations. Blood is the most important thing to consider. Any blood that escapes into the peritoneal cavity forms a clot

and will give subsequent symptoms of sepsis. Take, for instance, any ordinary operation upon the abdomen where the operator is engaged in the problems of technique; often a little blood is allowed to escape along the intestines and accumulate under the liver, the diaphragm or other viscera; the abdomen is closed without any irrigation of the peritoneal cavity. If this blood has accumulated in the pelvic cavity, it will become localized there and form a pelvic abscess which will require drainage. But if it has accumulated under the diaphragm, the stomach, the liver, or other of the abdominal viscera there will subsequently appear symptoms of sepsis; these symptoms are nothing more than those of sepsis as the result of the presence of undisturbed blood clots. By thoroughly irrigating the abdominal cavity, and thus diluting the blood, it will enable the peritoneum to take care of it without any difficulty.

REPORT OF CASES TREATED WITH RADIUM BROMIDE.

Theodore Eugene Oertel, M.D., Augusta, Ga.

When Mme. Curie and her late lamented husband discovered radium they opened up a new world of investigation to the physicist and one may say that this discovery and the subsequent train of investigations with radio-active substances is the greatest single forward stride in the progress of the human race. It would seem that radium first changes into emanations. Then successively into radium, A, B, C, D, E, and F, the latter being in all respects like polonium, which elemental body has recently been separated from pitchblende by Mme. Curie and her co-laborer, M. Debierne. They succeeded in isolating only the tenth part of one milligram which was found to throw off sensible emanations of ozone and helium and to add to the spectrum seven rays which are not detectible in any other known substance. So powerful are its emanations that it rapidly decomposes all chemic and organic substances and split in all directions the quartz vase used as a container. Naturally the medical world turned with avidity towards this new substance and it was heralded by the over-enthusiastic as a probable panacea for all human ills.

The scarcity of radium and its high price has rendered it inaccessible to the medical profession at large, but a large number of investigators have been using it therapeutically for a sufficient length of time for us to begin to draw some conclusions as to its merits as a therapeutic agent. Much more time must necessarily elapse before definite conclusions can be drawn, but we are warranted already in the assumption that it will fill a place now vacant in our medical armamentarium.

The best methods of its applications, dosage, and ultimate results are yet to be determined. Often it will succeed where the X-ray and the Finsen light have failed, and its ready method of application to small surface growths, particularly about the face, eyes, and auditory canal, as well as in the mouth and rectum, make it of peculiar value in conditions where often it is next to impossible to use the X-ray. It is particularly valuable in cases of epithelioma, vascular neavus, eczema with itching, lupus vulgaris, pigmented moles and warts, and cases of cure have been reported on inoperable conditions due to carcinoma and sarcoma so situated that the tube might be buried in their depths.

Relative to the action of radium on the tissues, I quote an excerpt from the Journal of March 12th, from the Centralb. f. allg. Path. u. Path. Anat. xx, 243, 1909, reviewing the experiments of C. Guyot, as follows: The experiments of C. Guyot tend to show that the first action or radio-activity is one of stimulation of the vitality of the cells of the epidermis and of the fatty glandular tissues, which leads to a hyperplasia of these tissues. Soon, however, retrogressive processes set in. The entire process is one of acceleration of the normal cycle of cell activity in the epidermis. The normal slow replacement of the superficial cells by new cells from the germinal epithelium is greatly hastened by the stimulation of the radium rays, and there results an overproduction of cells and a consequent rapid involution in the newly formed cells. Within a short time the germinal epithelium seems to become exhausted and there follows a halt in the germination of new cells, while the rapid involution of the recently formed cells and the natural death of the more peripheral ones continue. This, as is evident, leads to a complete extermination of the epidermis. This muscular tissues seem to be particularly resistant to radioactivity. The experiments were carried out on mice. The animals were placed in a lead-lined satchel in an opening in the lid of which the metal capsule containing the

radium was placed. The exposure lasted as long as forty-eight hours and the animals died from three days to seven months after exposure.

I first secured ten milligrams of radium bromide of the highest activity in a glass tube, but unfortunately after using this for a period of about six weeks, it met with an accident by which I lost four milligrams, and since then I have employed eleven miligrams of radium bromide in an aluminum container. I have found the latter preferable, not only on account of safety, but also for the reason that the alpha rays penetrate the aluminum tube much better than they do glass and the alpha rays are largely in the majority. The purpose of this paper is a preliminary report of a few cases treated with the above medium. Of course, sufficient time has not yet elapsed for us to draw conclusions as to the permanency of the cures in the following cases; they may only be considered as clinical cures. Upon a future occasion, I trust I shall be able to report their final outcome.

Recurrent Epithelioma of the Nose: A. B., white, male, age forty. Consulted me a year ago with epithelioma upon the right side of the nose, nodular in character, two cm. long by one cm. wide, and elevated above surrounding surface with a few punctate ulcerated areas. The growth had been unsuccessfully treated with the X-ray for a period of almost a year. Under general anesthesia the growth was removed together with an apparently healthy margin of skin about one cm. wide. A linear scar resulted with no apparent recurrence for a period of six months. At this time a small nodule began to grow in the lower border of the scar and within a period of about six weeks was markedly elevated and about one cm. in diameter. Three radium exposures were given, extending over a period of three weeks, there being an intermission of one week between each exposure. There resulted marked erythema over an area of about two cm. and the growth rapidly disappeared until at the end of about two weeks further the surface was

smooth and apparently healthy and only slight redness remained. At the end of a month's time the skin had assumed a normal hue and appearance.

Pigmented Hairy Mole of the Face. Mole was about seven cm. in diameter by five mm. in height. Heavily pigmented and contained numerous dark hairs. Two exposures of one hour each with an interval of one week were given. Marked erythema with itching and burning resulting and there was also slight vesiculation. The growth rapidly shrunk until it reached the level of the skin and four months later there was only slight elevation. The pigmentation, however, remained. It is probable that a further exposure would remove this also. All of the larger hairs dropped out and there remained only a comparatively few fine ones.

Pigmented Mole of the Right Upper Lid: A. R., white, male; age forty. The growth was congenital, five mm. wide by ten mm. long, and envolved the cilia. It was extremely vascular and nodular in character, and black in color. A total or five hours exposure was given extending over several weeks. The growth gradually dried up and came off in pieces. At the end of six weeks it had entirely disappeared. Normal skin and lashes remained and there was no contraction of the lid.

Glandular Carcinoma of the Post-Auricular Glands: A. J. Q. Age fifty, white male, consulated me two years ago for ulcerated mass involving lower portion of right lobe of the ear and contiguous tissue, the mass about three cm. in diameter by two cm. in height extensively ulcerated with indurated, raised edges. From it he had had several hemorrhages. X-ray treatment over a considerable period of time reduced the growth but did not eradicate it. Finally, an operation was done under general anesthesia; all unhealthy tissue being apparently removed, the wound being allowed to heal by granulation. Microscopic examination of the tissue showed the growth to be a glandular carcinoma. A number of X-ray treatments were given after the operation and the patient was

then allowed to return to his home in a distant town. Six months after he returned with a recurrence of the growth and a second operation was performed. Post-operative X-ray exposures were again made and he was urged to return upon the slightest evidence of recurrence. The latter part of November he returned with a nodule two cm. long in the post-auricular tissue. Radium exposures were given, amounting to three hours, and he was told to report in two weeks. At this time there was a considerable softening in the growth and a diminution in size. On January 4th, he again reported and I found that the nodule had entirely disappeared and there was no recurrence at other points. The above three exposures were given on successive days, one hour each, and the patient tells me that he had quite a blister at the site of exposure. There was, however, no scar as a result.

Epithelioma of the Inner Canthus, Left Eye: J. R. R. White, female. Age thirty-four. Consulted me for a small epithelioma at the inner canthus of the left eye. Duration one year. Growth was nearly circular, raised above the surface, about seven mm. in diameter, microscopic examination was not made, but it was typical clinically of epithelioma. She assured me that it was rapidly increasing in size. Four exposures of radium were given, the first two of one hour each, the second were of one-half hour each, at intervals of one week. The growth rapidly diminished in size and at the end of six weeks from the beginning of treatment had disappeared. So far there has been no recurrence; no scars; and no contraction.

Itching Eczema of Both Auditory Canals: C. F. T. White, male. Aged sixty-five. Presented himself, November 18th, 1909, with a condition of itching and discharging eczema of the auditory canals which had existed for forty years and for which he had been treated in all parts of the world by many specialists of note. There was a foul discharge, intense itching, and burning and when the canals were wiped clean they were

found to be intensely hyperemic, very tender, and bled easily. I introduced the radium tube in each canal for the space of ten minutes as I did not dare to give a long-exposure without experimentation. The discharge and itching stopped like magic. Treatment has been intermittently continued since that time. Ten exposures have been given, the last one being thirty minutes in duration.

The mucus membrane is now of a nearly normal appearance there being only slight redness; the discharge which ceased upon the first application has not reappeared; there has been almost no itching; swelling has entirely subsided and the patient experiences a total relief from all of the distressing symptoms which have troubled him for so many years. To me this case is of especial interest on account of its having been entirely intractable to other methods of treatment and yielding so readily to this. The possibility of radium treatment for pathological diseases of the middle ear is one of great interest.

Keloid of the Breast. A. B. C. White, female. Age twenty-five. Suffered a year ago with an abscess of the right breast. In the resulting scar there developed a keloid; fifteen mm. in diameter; circular; about five mm. in height; pink in color; and of a very dense consistence. A total exposure of ten hours has been given this growth, extending over a period of above three months. At present it is level with the skin but there is still some induration and it seems certain that a few more treatments will remove it entirely. Treatments have been one hour each, the tube being strapped with adhesive upon the growth, and between exposures there have been intervals of between two to three weeks. There has been considerable erythemia and twice vesiculation at the point of exposure.

Carcinoma of the Rectum: F. E. Y., white, female; age fifty-six. The case was referred to me November 11, 1909, through the courtesy of Drs. Horne and Crane as an inoperable case of cancer of the rectum in which some

good might be attained by the use of radium. Eight years ago the patient began to have rectal trouble with hemorrhages from the bowels and says that at this time she passed two small pieces of bone.

She was operated upon September 14th, 1909, for fistula in anus, at which time a diagnosis of cancer was made. Has lost twenty-five pounds in weight and is quite anemic; has no pain; but is obliged to take cathartics constantly so that her stools may be entirely liquid. Is now taking ten doses of cathartic daily and even with this has much difficulty in defecation. There is an indurated mass in the rectum about ten cm. from the anus, said mass being anular in form with a small opening admitting a uterine probe with difficulty. The probing causes pain and some bleeding. There is a foul-mucopurulent discharge. Exposures were at once instituted the radium tube being introduced as far as possible into the small central opening mentioned. The radium tube was protected by being enclosed in a small gelatine capsule such as is employed for the protection of thermometers in infection cases, and was held in place with a cotton tampon. Exposures were at first one-half hour, later they have been increased until now I am giving her exposures of an hour at a time. The total of exposures to date is about forty hours.

There seems to have been a considerable amelioration of the distressing symptoms of the case. She has gained eight pounds in weight and after a period of three weeks from the first treatment ceased entirely to take cathartics except occasionally and now has formed actions although the fecal masses are small; about the size of her thumb she informs me. The central opening of the mass is considerably increased in size so that it is now easy to introduce the tube and it can be pushed through the mass and felt to emerge upon the opposite side. The anular induration seems to be about five mm. in width; there has not been any sensible decrease in the discharge

and it still has the characteristic odor of cancer of the rectum. Flatulence which troubled the patient greatly before radium treatment was instituted has almost entirely disappeared. She sleeps better and assures me that she feels considerably improved in a general way. As she was rapidly declining at the time that the radium treatment was begun it would seem as if some good had been accomplished and her days may have been prolonged, at least. It is almost too much to hope for an ultimate cure in such a case, but the patient is very persistent and hopeful, and, of course, I shall keep up the treatment as long as she desires, and there is indications for so doing.

Besides the above cases, I have under treatment several others which I trust I shall be able to report favorably upon in a future communication. One case of lupus vulgaris of some years standing which has been unsuccessfully treated with X-ray and other medicamentis seems to be yielding nicely to radium treatment, but it is too soon for me to make a positive statement in regard to it.

In view of the large number and variety of diseases which have been treated successfully with radium by a host of surgeons in all parts of the world and the successful outcome in the cases above reported, I shall continue to use this marvelous agent with increasing interest.

I thank you for your attention.

RADIUM THERAPY.

F. G. Hodgson, M.D., Atlanta, Ga.

The therapeutics of radium is a comparatively new study. On account of the rarity and great cost of the substance very little has been available for general use. In the last four or five years, however, enough evidence has been accumulated from various parts of the world to leave no doubt as to its real value.

Let me quote from Sir Frederick Treves, London surgeon to the king. He says in the British Medical Journal, February 6, 1909, speaking entirely from personal observation of cases which he saw treated in Paris: "It may be said, and I think without hesitation, that radium will cure every form of naevus (angiomas, 'portwine marks,' hairy pigmented moles, etc.). With regard to skin affections, you probably know well enough the effect of radium in curing chronic local eczema, and especially forms of eczema associated with itching. Then radium can cause keloid to vanish—the keloid left by a wound, the keloid left by tuberculous glands and that obstinate from known as acne keloid."

Now we come to rodent ulcers. Radium will cure rodent ulcers. Of what grade? Rodent ulcers which have existed for many years, in which the tissues have become adherent to the bone, or apparently to the bone, in which there is ulceration, in which—and this is the most important point of all—in which the Finsen light, the X-ray, and cataphoresis have been tried and have all failed. Such cases—and there are many of them—may be cured by two sittings of radium lasting one hour each, the parts being finally left free from attachment to the deeper parts, the skin being soft and pliable. Why, I lay stress on such cases as this is for this reason. It has been

said radium only acts by means of the X-ray which is a part of its radiation. Anyhow, here are cases, numerous enough, in which a condition is cured which has refused to heal under persistent treatment by the X-rays. In other words, radium can effect a cure where X-ray cannot. With regard to epithelioma of the tongue and epithelioma of the lip, they are cured by radium. You say of what degree? I acknowledge that the cases are in the early stages of epithelioma, but they are epitheliomata that are ulcerating, and that so far as we know can yield to no other treatment except operation. If, therefore, an epithelioma of the tongue can be cured by radium and cured to the satisfaction of those who are responsible for the case, it is a case of epithelioma cured without operation. Many of these I have seen. The same remark applies to commencing epithelioma on the inside of the mouth. With regard to epithelioma of the face, I can speak of these cases seen at the Paris (Radium) Institute. An epithelioma of the face which had perforated into the nasal passage, that was cured after a good many sittings. An epithelioma of the ala nasi, which was destroyed under the influence of radium, after sittings which amounted in all to eight hours. An epithelioma the size of a two shilling piece cured and the surface healed over. You may ask, but are these results permanent? They apparently are. It is true no great amount of time has elapsed but some cases were perfectly sound after more than two years. We await with interest the extension of this treatment to malignant diseases of the uterus and rectum."

Dr. Robert Abbe has had a very extensive experience both with radium and the X-ray. He is most enthusiastic over the results of radium treatment and says it will succeed where the X-rays have failed. He has reported cures in a large number of epitheliomata, a few sarcomas, lupus, and other similar conditions.

F. H. Williams, of Boston, has also had wide experience. His conclusions are: "Improvement follows the

use of radium more promptly in many cases than the use of the X-ray, the total duration of treatment by radium, although, sometimes long, is much shorter than with the X-ray. In some cases success has followed the use of radium, where treatment by X-ray has failed. Recurrences follow all methods of treatment and radium is no exception, but so far as present experience goes this is unusual, and these recurrences yield to further radium treatment. He reports sixty-nine cases of epithelioma treated; of these fifty-six were cured (about 80 per cent.). One not cured, four still under treatment, eight discontinued treatment. Some of these have been cured for more than four years.."

Wickham and Degrais, of Paris, have published a large volume on "Radiumtherapie," in Paris. It is beautifully illustrated and shows some truly marvelous results which they have obtained with cases of superficial cancers, keloids, nevus, lupus, and other skin affections.

Besides the Paris Institute, there is a handsomely endowed London Institute for treatment of cases with radium.

From the above one can see that radium is no longer a simple fad or a new experiment, but has proven to be of real and permanent value.

Methods of Use: Radium is generally used in a thin glass container and is strapped on the area to be treated, while the surrounding normal skin is protected by lead plates. Or the radium may be enveloped in lead with only a small window to allow the rays to escape at one point. To keep it clean it is often surrounded by a thin rubber finger cot. The glass tube may be sterilized and inserted into a tumor mass.

In Paris the radium is used spread out in a thin layer with shellac. The surfaces being of various sizes and shapes suitable to the different areas treated. Screens of various thickness, usually of aluminum or lead, are interposed between the radium and the area treated when one wishes to avoid the effect of the superficial rays,

which are irritating and to secure the effect of the more penetrating rays which reach the deeper tissues.

The length of exposures is usually from twenty to eighty minutes without screens, and from three to twenty-four hours with screens or when inserted into a tumor.

Cases Treated: My own experience has been limited to the use of ten mg. of pure radium bromide of 1,500,000 units activity in a sealed glass tube. The best results have been obtained in cases of epitheliomas of the skin. These have varied in size from ¼ inch to 2 inches in diameter, some very superficial and others involving the deper tissues. They had existed varying lengths of time from one to twenty-three years. The average duration in the cured cases was eight years. Some of the cases had been under various forms of treatment such as caustics, plasters, X-rays and operations. The results in twenty cases were twelve cured, six temporarily improved, two unimproved. Of the cured cases, the number of treatments varied from one to sixteen, the average number of treatments were six. The usual duration of treatment was from three-fourths to one hour. The cases which had not had previous treatment of any kind responded more quickly to radium treatment, but some of the cured cases had had almost every other form of treatment.

Other cases treated and cured were a few keloids, warts, chronic eczemas, angiomia, one epulis of the sup. maxilla was cured; three hairy moles gave unsatisfactory results; three inoperable cancers of the breast were treated without any marked or lasting benefit; one inoperable sarcoma of the orbit, no result; one persistent trifacial neuralgia, doubtful result; two exopthalmic goitres, doubtful result; one cancer of the tongue, is now under treatment and has proved very interesting. When the patient first came referred by Dr. J. H. Maxwell, of Greenville, S. C., I advised an operation. The cancer had been there about five or six months and was rapid-

ly growing. It was ovoid in shape, about two by four cm., on the right inferior surface of the tongue and had just crossed the median raphe. He was given one and one-half to two hours exposures on two successive days and then an interval of two weeks was allowed. After about six treatments there was some inflammatory reaction; then the ulcer began to heal and the edges to contract so that the cancer was now limited to the right side of the tongue only and was smaller. I again advised operation but he still refused. Since that time the growth has remained about stationary. At least we have stopped a rapidly growing cancer and caused it to contract at the edges. What the future will be I dare not say.

Conclusions: (1.) Radium is the best form of treatment for superficial epitheliomas, keloids and naevus.

(2.) It succeeds where the X-rays and other forms of treatment have failed.

(3.) It is painless, easily applied, free from complications and leaves little or no scar.

31 Century Building.

DISCUSSION—PAPERS OF DR. OERTEL AND DR. HODGSON

Dr. R. R. Kime, Atlanta: I consider the two papers just read as rather too important to go without any discussion. They are full of interest to a great many of us. So far the cause of malignant disease is unknown; this is a question for the future to decide. There is probably an invasion of certain tissues by cell infiltration. There is a possibility that by the use of the X-ray or radium that absorption takes place and cell infiltration may not be stimulated. However, this is a question for the future to determine. Hithertofore it has been pointed out that, wherever possible, the growth should be removed either with the knife or by means of caustics. Then it was advised that after removal of all of the invaded tissues possible, other methods of treatment should

be carried out, such as suggested. Now it is pointed out that there is no possibility that by the use of the X-ray or radium that metastases may not take place in other organs of the body.

There is a wide range of usefulness for these means of treating malignant growth which cannot be removed by the knife or by caustics there are cases in which it is imposible to remove malignant growth by the knife or caustics; in such cases the X-ray or radium answers a good purpose.

There is another question that comes up regarding the depth or the penetration of radium. This, of course, is very important in growths that are deep-seated.

Dr. T. E. Oertel, (closing): It seems to me that, even with my limited experience with radium, we can treat growths about the face, particularly about the eyes, successfully, particularly epitheliomas, and without the danger of the disfiguring contractions. I think this is one of the chief advances. All of us have seen the horrible results of operations about the face for epitheliomas; we have seen the hideous contractions about the eyelids. Dr. Abbe, of New York, has reported one case of sarcoma of the lower eyelid which was cured by the employment of radium and with an absolute return to the normal, there resulting no scarring and no contraction.

Dr. F. G. Hodgson, (closing): I should like to add one more word and state that patients treated by radium do better if they are not subjected to other forms of treatment. Even a very small growth if cut out and then treated with radium will look bad and scar and contract; this would not happen if radium was the only treatment employed. When a growth like epithelioma is treated with radium, the cancer cells disappear and there is soon a return to the normal appearance of the skin. But if

the knife or caustics be used, and the radium used afterwards, there will be much scarring. If you have to deal with a small epithelioma, superficial in character, one that is easy to get at, radium gives the best results, with less contraction and less scarring; it is better than any other form of treatment in such cases.

PRESIDENT'S ANNUAL ADDRESS.

Members of the Medical Association of Georgia, Ladies and Gentlemen:

There are emotions of the soul which no artist hand can paint nor language fittingly express. Here in this assembly of doctors of the Empire State of the South, in the beautiful classic city of Athens, which brings us memories of such illustrious men as Dr. Crawford W. Long, Henry W. Grady, Ben Hill, the Cobbs, and others of historical renown, here in such atmosphere where the gentle winds murmur forever among the unbrageous branches of the neighboring oaks, is a scene that fills my heart with emotions that I cannot express. Confucius has said that words are the voice of the heart, but I feel that words are too cold and phrases too empty for me to attempt to express my appreciation for the honor conferred upon me a year ago when I was made president of this association.

To be president of the Medical Association of Georgia, is an honor of which any doctor might well feel proud, and since my connection with the association this distinction has been the goal of my professional ambition. I have now attained at an early period of life what I regard as the highest honor within the gift of my professional brethern.

In assuming the duties of the office I found that my predecessors had aroused considerable interest and enthusiasm in society work and had affected a very thorough organization of the profession in our state. They, together with the efficient board of councilors have rendered invaluable service, the effect of which will live long after they are gone. The most important work for the present administration was to improve the character of the work done by the county, district and state societies and make some changes in our medical laws. To

this end we have directed most of our labors. We regret to have to report that practically nothing has been accomplished during the year in the way of legislation, principally, in consequence of other topics of more absorbing interest to the last general assembly. We hope, however, that success will attend efforts to accomplish something along this line at the next session. We are pleased to report more favorably in regard to society work.

We now have more than one hundred counties organized, many of them doing excellent work. While there are some that are not doing what they should, they are keeping up the organization and at an early date we expect to see them manifest more interest. Each congressional district has a good working district society and much good is being accomplished by them. These societies are running like a well oiled piece of new machinery and are doing much to win the profession of the state over to the new order of things brought about by the re-organization a few years ago. During the past year I have had the pleasure of attending seven of these meetings and at each meeting an interesting program was rendered and considerable interest manifested with an attendance that was very satisfactory. It was very gratifying to observe that many appeared on the program of these societies with excellent papers who never or seldom ever read a paper at the state society; and it is to be hoped that they will, as many are doing at this meeting, present papers at the state society meetings.

Since the re-organization a few years ago, our membership has increased about three-fold, numbering now nearly fifteen hundred, but let us not rest satisfied until we can rightly claim the distinction of leading every state in the union in the proportion of the number of our members to the number of physicians within our territory. This is a worthy ambition, for the uniform allegiance of the profession in Georgia to the state organization would give us a power and diginty unequaled by

any similar medical association in this country. It would enable us to regulate the conduct of our individual members and to exert great influence for good in public affairs throughout the commonwealth. I am glad, indeed, to see a good attendance at this meeting and to see that each section of the state is fairly well represented. I congratulate those in attendance upon the character and quality of the program presented, and trust that all may be benefited in thus coming together in annual convocation to renew pleasant associations of the past, to fan into ready flame the luminous coals of friendship and to promulgate truth and scientific medicine. It is true that all of us had to make sacrifices to come, but one can afford to make a sacrifice to attend such a meeting as this. It pays a man to help make the session of a medical society a success, because of the influence the meeting exerts not only on the community in which it is held but upon the country at large, educating and stimulating the profession and advertising to the laity that medicine is not bound by dicta or dogmas, but is a progressive science ready to discard the old if proven to be falacious, and to adopt the new if found to be of value. It pays a man to write a paper for a society, because in its preparation he has to study and familiarize himself with the subject, and thus becomes a better doctor. It pays him to read a paper before a medical society, because it gives him a legitimate opportunity to show his capacity, thus increasing his reputation, or of presenting new and original views as to treatment of disease, thus adding to the knowledge of the profession. It pays a man to listen to the papers read by others at a society, because in no other way can he, in the same length of time, get so much knowledge with no little labor. There is none so learned, but that he may learn something from the most humble member of the profession. The discussions which follow these papers are especially profitable. In them is an impressive personal element which is totally lost in the stenographic report published in the transactions. In

addition to the educational and professional advantages derived from attendance upon these meetings, there are equally important social and personal benefits. The occasion is a holiday, a recreation, a vacation. It breaks the monotony of life to turn aside for a time from the care of patients, pills and potions, and enables one to do better work when he returns home. It offers opportunity to meet men who are doing the same kind of work in different sections of the country, and results in pleasant and profitable acquaintances, which often lead to permanent friendship. And last, but not least, it brings together men who live in the same community, but who, owing to petty jealousies or lack of time for social intercourse, see little of each other. Either in the session of the society or in the committee rooms, or on the journey to and from the place of meeting, they are thrown into an intimate contact, which frequently leads to the explanation of misunderstandings, adjustment of differences, appreciation of good qualities and to the establishment of most friendly and cordial relations.

The public as well as commercial organizations are beginning to recognize the fact that the best physicians are members of medical societies. One of the largest life insurance companies wrote me recently saying that they were revising their list of medical examiners, and as they wanted for examiners only such men as belong to their state society, they would like for me to send them a list of our members. The time is fast approaching when the public at large will not want to patronize a physician who is not in good standing with his brethren, and not only a member, but an active factor in medical societies.

A new era of professional prosperity awaits only the recognition on the part of the physicians as a class and individually that the public will trust and respect those only who respect and trust each other—and to a like degree. More confidence for medicine itself by those who practice it, more tolerance for fellow workers, less doubt,

either implied or expressed, of the tools entrusted to their hands, of the principles and practice of medicine and therapeutics, of the success of their calling and profession. More faith, more hope, more charity. For the successful practice of medicine depends to a great degree on these three principles.

The Medical Association of Georgia, with its new constitution and by-laws and large membership, should soon be a great force politically. The personel is such that it will soon be the equal of any similar organization scientifically. The fact that it is composed of Georgians is a guarantee that it will never suffer by comparison with others socially. Our weakness is lack of business methods in attempting to get needed legislation, in the prosecution of charlatans and quacks, and lack of activity in various other directions where our influence is needed.

We should provide funds for the work delegated to the committee on public policy and legislation, and thus make its work more effective. We should offer rewards for research work which would reflect credit upon the profession and benefit to the people. We should also offer prizes for the best essays read at our meetings. Finally, we should establish permanent headquarters. There is no question of the desirability of the society having a home office for the transaction of official business, the preservation of records, the collection of books and journals and the formation of a museum. In the past it has been our custom to meet in different sections of the state. This policy was originally adopted for several reasons: first, in order to distribute the cost of entertaining the society among the different cities of the state, but this reason no longer exists, because the society, by resolution, has requested the local profession of the town in which it meets to provide no social functions. Second, in order to equalize the convenience to members during a period of years, by holding the meetings in different parts of the state, North, East, South and West. Modern

travel, however, is so rapid, so cheap and so comfortable that when once a man leaves home, a hundred miles, more or less, is immaterial to him. The third reason was a desire to create interest in the society and increase its membership in the territory in which the meeting is being held; but the number of our members is now so great, and the work of the society so well known that this is no longer necessary. The time has come when he should have a permanent meeting place. The membership is so large that there are but few cities in the state which afford sufficient hotel accommodations and suitable assembly rooms and exhibit halls for its annual session. There are two cities in the state so situated as to make them accessable to all parts of the state. These cities are Atlanta and Macon. If necessary, we might divide our meetings between the two, but this would be a political compromise, and logically, one or the other should be selected. Personally, I favor Atlanta, although I recognize the inducements that would be offered by Macon. Atlanta being the largest city, and capitol of the state, making it the political center, and owing to the location of its two medical schools, its numerous hospitals, and the office of the state board of health, it is recognized as the principle seat of medical interest. Besides having adequate hotels and numerous auditoriums it is a point where so many members have business and social interests that many would attend the annual session for the tripple purpose of participating in the meeting, transacting private business, and meeting friends and relations. The Fulton County Medical Society composed of a large membership nearly all affiliating with the state organization has established a permanent home, with an assembly hall, library, museum and other attractive features. I am sure it would be glad to co-operate with the state society, give it space for its business offices, care for its library, and cordially welcome its members when they visited the city during the period between sessions. It could provide places of meeting for the general body,

as well as the council, and provide clinics at the hospitals and colleges as an important feature of the program.

These are mere suggestions and while I do not wish to press these changes at this time, I hope to live to see them put into effective operation. We will now take up the real work of the society.

"SPENDING" OR NOCTURNAL ORGASMS IN WOMEN AS A FACTOR IN HYSTERIA, NERVOUSNESS AND HEADACHES.

E. Bates Block, M.D., Atlanta, Ga.

This subject has not, as far as I know, ever been brought to the attention of the medical profession. I have been impressed with the frequency of its occurrence in connection with nervous cases, and there can be no doubt that it is the cause of many of the cases of hysterical paryoxisms, headaches, and general nervous attacks, which we see. It is, therefore, a matter of importance to recognize the existence of this condition, as otherwise many cases must remain uncured owing to the lack of knowledge on the part of the physician and the patient also. It frequently happens that women know this to be associated with, or the cause of, their nervousness, and yet from modesty will not tell their physician about it. I have seen altogether quite a number of these cases, and they are usually due, as in men, to unsatisfied sexual desire.

For example, one patient was a young woman, age twenty-eight, unmarried, but a semi-prostitute, very erotic, and had frequent intercourses. She had an operation performed for appendicitis, and as this necessitated a long sexual rest, she began to have dreams at night like sexual intercourse which terminated by a climax and the passage of a small plug of mucus, which seemed to come from her cervix. On the day following this spending, she would be extremely nervous, have crying spells, her appearance cyanotic, her features looked pinched, a bluish appearance under the eyes, and the vessels of the

eyes injected. Frequently she had severe headaches after the spending, and on one of these occasions she took Antikamnia and came near dying from its effects. After she recovered from her operation sufficiently to resume her usual practices, she recovered entirely from her nervous symptoms.

In another case, a married woman, aged twenty-three, complained of headaches for four weeks. She has one child living and well. Married six years. She has had two operations, one for appendicitis, and in another one ovary was removed and a part of the other, and curettage. She had heat prostration six months before consulting me, and this lasted a week. Also, she had headache lasting a week, three months ago. Four weeks ago, headache began again and has continued ever since with perhaps two hours relief at a time. Started on the day of menses and is now menstruating again. Menses regular, twenty-eight days, last two to three days, no pain, or less than before operation. Every other month it is scanty. Headache begins with mental depression and she feels like she had committed a crime. Begins in top of head and passes down to neck and the muscles of the neck get stiff and sore, accompanied by throbbing which is continuous and severe, and she was confined to the bed for the first three days. Has had dreams and thinks some one is beating her on the head. Before this headache, for a week, had spending dreams, like intercourse, two or three times a night and wakes up just at the end of it. Has had these spendings on and off for two years. Never in day time. Husband is living with her, but has been incapacitated for three years. Aged forty-four. Backache in sacroiliac region for six months on an off. Better at times, worse at others. When she goes to bed at night, she has to get up two or three times to urinate every fifteen minutes before she can get to sleep and again about midnight and the first thing in the morning. No dribbling, but voids often during the day, about six or seven times. No fever, appetite natural,

taste good after eating. Pain in region of heart at night often, due to indigestion she thinks. Belching after eating. No nausea or vomiting, except some nausea when headache is severe. Bowels regular. Weight about 125 pounds, gained some lately. Dyspnoea on exertion and weakness for a month. Says she has laceration of cervix. Has had, three severe headaches altogether spending only preceded the last headache. She says she had spendings ever since she married, not before and is always nervous after it.

In another case, a married woman, age twenty had been married for six months, but has been much troubled with spendings for nine or ten months. This occurs in spells and may not occur for a week or two, and then has two or three spells in one or two weeks, or may have two in one night, followed by intense nervousness, crying, headaches, trembling and "all to pieces." Never has spending when her husband is away, even if he is gone a month. It often occurs on night of intercourse, and always then, if it does not occur during intercourse, and may occur two or three times in one night. Intercourse occurs very frequently and is always very painful to her. Rarely has any sexual gratification, although her husband has no premature discharge. She says the spending consists of sexual feelings and she thinks there is a slight discharge; says she seldom has any continued feeling or climax during the act. Says it is usually done without any petting or arousing and desire on her part. The spendings before marriage were brought on by husband being too affectionate, but had no nervous spells until after marriage. Since then they were brought on by excessive intercourse without gratification. Otherwise she seems fairly healthy, weight 130 pounds. Appetite poor for two or three months; tastes food often after eating, much belching, no nausea or vomiting, bowels regular, menses twenty-eight days, regular, last four days usually, slight pain just before it. Sleeps well except when nervous, then has night mares.

In another case, a girl, aged eighteen, had been operated on ten months before consulting me for cystic ovaries, which were lanced and cauterized, but the ovaries were not removed. Her sexual desire was aroused at age fifteen by riding horseback astride, and since then has had sexual feelings both in day time and at night. She had frequent dreams at night, as of seeing a naked man, etc., and with it strong sexual feelings, followed by a climax, and was extremely nervous afterwards. At times being very hysterical with crying and screaming attacks, muscular rigidity. Opisthotonus, convulsions, nausea and vomiting, abdominal and general pains and severe headaches. When she would go for a few weeks without spending she would be almost entirely free from nervousness, but it would invariably occur on the day following the spendings and cease when the spendings and sexual felings were finally relieved.

In another case, a yound lady, age twenty years, suffered from attacks of nervousness and trembling which always followed spending dreams and gradually subsided until another nocturnal orgasm occurred.

I have seen quite a number of other cases on this order and with such frequency that I am inclined to consider it a very important factor, in many cases of hysteria, general nervousness and nervous headaches. As a rule, patients will not tell their physician about this, and it is only on careful inquiry, as to the cause of their getting suddenly worse while under treatment that the information is obtained. Nevertheless it is essential to know of it, otherwise many cases must remain uncured, which with this knowledge are readily curable.

By his request, Dr. Westmoreland's paper is not published.

Discussion on Papers of Dr. Block and Dr. Westmoreland

Dr. J. G. Earnest, Atlanta: I wish to call attention to one important point in Dr. Westmoreland's paper in which he states that there is no longer any place for the

vaginal pessary in woman. Now, while I agree with him that this is so in nearly all the cases, or even a large percentage of the cases of chronic displacement of the uterus, especially the retroversions, at the same time I am fully convinced that there is still a place for the pessary. For instance, I make it a point after my confinements, to note the amount of return to the normal of the tissues, for at this time there begins the troublesome cases of retrodisplacements. I careful watch such cases and if there is this tendency to retrodisplacement I place the patient in the knee-chest position; if I find that has not the desired effect in keeping the uterus up, then I think it is a good policy to give that patient, at least for a time, a ring to hold the uterus in its normal position, that is, the position of antiflexion. Such cases can be cured of their trouble and will be absolutely relieved by such a means of what otherwise would be a very troublesome retrodisplacement. Give the support long enough for the stretched ligaments to regain their tone and, in the vast majority of the cases, they will be cured. The longer one delays interference, the worse it is, and it is no use for the woman to wear a pessary forever.

There is another point I should like to bring up. I want to emphasize the fact that a pessary should never give the woman any trouble; a patient should never be conscious of the fact that she is wearing a pessary after it has been properly adjusted.

There are some patients on whom we cannot operate; they may have some heart lesions, or some nerve lesion with their chronic retrodisplacement. For various reasons some women will not submit to an operation. Some cannot take an anaesthetic. I recently saw a case of that sort. A few years ago I worked hard for hours to save the life of a patient who could not take the anaesthetic. Under such circumstances I think it is well to temporize. Many women, even though they could take the anaesthetic well, will refuse an operation. They prefer to wear a properly adjusted pessary and these are the

women we can help. We cannot refuse to give them help merely because they, for certain reasons, cannot or will not submit to any operation for the radical cure of the displacement.

Dr. Thomas J. Charlton, Savannah: I think the two papers just read are extremely interesting because they involve cases that we see almost daily and for which little is done. The morbid reflex neuroses which occur from some defects of the eye perhaps receive more attention from the oculist because he devotes much more attention to that subject. I have found, however, that where the neuroses were due to defects in the nasal cavities, the results of treatment were usually poor. I think that most of the specialists shudder at the more serious surgical operations upon the nasal chambers; the neuroses are apt to continue. At least that has been my experience; we cannot get good results in those cases because of the existing defects in the nasal chambers.

With regard to the constriction or narrowing of the meatus, my experience has been along the lines of Dr. Westmoreland. I have not had a great number of those cases, but I have seen some very serious trouble when this condition was present and I have seen some very beautiful results follow the restoration of the urethra to its proper calibre.

While I agree with Dr. Westmoreland as a rule, I must join with Dr. Earnest and take exception to the statement he made in regard to the use of the pessary. The time was when every man who practiced in diseases of women introduced pessaries; the shops were full of them for years. Now pessaries have been consigned to the junkshop. There has been a reaction followed by Nihilism. Now we have reached a more natural attitude regarding the use of the pessary. This is one class of cases in which the pessary certainly does good. In those cases in which the malposition is due to old adhesions, or growths, or inflammatory products, of course, that is an-

other thing. But we do meet with a large number of cases in which the displacement of the uterus is probably due to pressure during pregnancy. I have had a large number of cases in which the position of the uterus was absolutely normal; but after delivery you will find the uterus remaining down in the cul-de-sac, and would not come back into its proper position. This is a condition we meet with often of subinvolution and with the size of the uterus comparatively normal. There were no adhesions. Some observers have stated that it was due to the pressure of the head upon the posterior uterine wall, causing a thinning of it; when it gave way, then trouble took place by its doubling over. In such a class of cases a properly fitting pessary will restore the uterus to its proper position and in a few months it will be retained in its normal position without further use of the pessary.

We find some cases in which there is sterility; women will go for years without conceiving. I know of one woman who went twelve years without becoming pregnant. In such cases we often find a slight displacement and its correction by means of the pessary is usually followed, by conception, and in a few months time. In this class of cases the pessary is the thing. But the pessary should fit as does a man's shoes. The ordinary pessary from the shops never will fit an individual woman; it is an easy matter to adjust a pessary and make it fit; if a man cannot fit a pessary, he should not attempt to introduce one.

We have discussed here suspension of the uterus; the fact of so many operations having been done shows what unsatisfactory results have been achieved and it inclines me to believe more in the use of the pessary in suitable cases. In fact, I know of no operation that, as a rule, gives more unsatisfactory results than those for suspending the uterus.

Dr. R. R. Kime, Atlanta: I wish merely to speak on one or two points on which I do not agree with the

speakers. First, in regard to the prevalence of adhesions of the prepuce and the relation this bears to the production of disturbances in women. I have watched time and again cases of adherent clitoris, looking for bad disturbances of some kind; I have watched some cases for years, but I cannot agree that these disturbances follow so often as we have been told this morning.

I also wish to take exception to what was stated by the readers of the papers in regard to the use of the pessary. I believe the pessary has a proper place in the treatment of certain cases. In the majority of the cases retroversion follows confinements when the patients have been kept upon their backs too long. During subinvolution the supports of the uterus cannot keep the uterus in position when the patient is kept on her back so long. However, when such a condition results it is easy by placing the patient in the knee-chest position to bring the uterus forward; then, if necessary, it may be kept forward by the use of a properly adjusted pessary. This will prevent in seventy-five per cent. of the cases the demand for operation for the correction of this displacement. There is no question about this at all. If the cases are properly followed up, if they are given proper support, there will result a correction of such a displacement. When a pessary is properly adjusted, a woman does not know of its presence; but some skill is required in its adjustment; one must consider the size of the pessary required, the size of the uterus and the size of the pelvis. There is no question in my mind that the use of the pessary in years past has been carried to the extreme; the pendulum has swung too far in the other direction. But I think that now we have come to understand the proper place for it. When properly used it relieves many women and saves many of them from abdominal sections.

Dr. F. W. McRae, Atlanta: There is so much in Dr. Westmoreland's paper that it is impossible to talk upon or discuss more than one or two points. The main thing

that Dr. Westmoreland brought out in his paper was that not all of them could pretend to be specialists, yet I believe that all doctors should more or less specialize. No man in this line of work can afford not to be familiar with the whole field of medicine.

There is one point in particular that I wish to discuss, the relation of pelvic conditions to digestive disturbances. All surgeons have at different times met with instances of mucus colitis which was only cured by correcting not one but perhaps several other conditions. This is, I believe a very valuable point and one worth while remembering. Always look the whole patient over; look not only for a contracted sphincter or adherent clitoris, but look for conditions elsewhere, such as an appendicitis, gallstones, pelvic troubles and other conditions; by correcting these very often the digestive disturbances will be corrected. Every surgeon realize that only a part of his work is accomplished by what he does surgically. An abdominal surgeon very often will be able to cure his patients by two or three weeks in bed, by absolute rest. A surgeon cannot get the best results in the treatment of any patient without the hearty co-operation of the general practitioner, the neurologist, and specialists in other lines of our work.

Dr. W. F. Westmoreland, closing: In my paper I dwelt entirely with the removal of the cause of the disease and not with the treatment; I said very little regarding the treatment.

With regard to the pessary, it seems to me that its use always attaches a woman to the doctor's apron strings. There is no question at all about this. Dr. Earnest uses the pessary before operation; naturally he has the skill of an expert in the application of the pessary, but all of us have not the same skill. To properly adjust a pessary demands such skill, mechanical skill that is possessed by but few, especially by few of the younger members of

our profession. Even in the hands of the skilled adjustor, the pessary will cause trouble.

As I stated in my paper, I have followed a systematic plan of treatment for these cases, that is, secure for them certain mental habits by making them learn or memorize certain lines of prose; this is especially good plan in the beginning of these morbid mental neuroses. This plan of treatment I believe to be most important. I wish to emphasize the fact that we do not discover one reflex which is to be removed but two, three, four or even five. Any such reflexes should be removed and then this intelligent plan of treatment should be employed; there may be used mental, physical, dietetic, or combined forms of treatment, as may suggest themselves to you. A point I also wish to emphasize in particular, that physicians are too prone to attacks and remove one causative factor and think then that all has been done that can be done and send such a patient away. I have frequently known of patients who had been treated from the surgical standpoint for the removal of the cause of the morbid reflex and had finally turned to the eye specialist, the internist, or the stomach man to have the condition improved. In dealing with these morbid reflex neuroses anything which acts as an accessory cause should be removed.

Dr. E. Bates Block, closing: With regard to the treatment of this class of cases, this depends upon the individual case; it depends upon the physician's opinion as to the best plan of treatment to pursue in each individual case. A system of education should be employed, teaching certain principles; also the system should be built up, their general health should be improved and strengthened, and the condition of the nervous system should be improved by the use of tonics, and so forth; all this is very effective in the treatment of these patients. We find in many cases that the moral treatment is better than the physical; also the use of drugs which tend to lessen the

sexual desire. There is the use of bromides and other agents which is so valuable in lessening this desire. The cases are so very different, and depend upon so many different causes that it is impossible to lay down any one plan of treatment for every case.

TICS IN CHILDREN AND THEIR TREATMENT.

Henry C. Whelchel, M.D., Douglas, Ga.

In presenting this subject today, it is not for the purpose of giving you something new, but to call attention to a condition that we general practitioners, too often treat lightly, by telling the mother that it is a habit, and the child will out grow it.

It has been said, that the frequency of tics, is in direct proportion to the civilization of a people. Considering the frequency of this condition, and the discomfort which it causes the patient, and his family, it must be said that the subject has not received the attention which it deserves.

Many of the tics, which are so annoying, and obstinate in adult life, give as their outward manifestation a tic in early life. Often such a tic was neglected, looked upon as a bad habit, to be out grown, or treated with drugs without relief, and the patient and his family discouraged. It cannot be too strongly emphasized that a tic is simply a motor manifestation of a peculiar mental state, and should be looked upon as a warning, a danger signal of possible trouble to come.

Tic, some times called mimic spasm, habit spasm, etc., has been defined by Gowers as: "A spasmodic movement, half voluntary in aspect, which the patient is unable to control."

By Guinon as: "An habitual, and conscious movement resulting in the contraction of one or more of the muscles of the body; reproducing most frequently in an abrupt manner; some reflex or automatic action of common life."

By Meigs and Feindel: "A tic is a psychomotor affection in which two elements are essential: First, an

abnormal state, a lack of control of the will; Second, a motor manifestation due to some stimulus from without, or from the brain."

When the stimulus acts from without, the movement is executed with a definite purpose.

By repetition this movement becomes habitual or automatic; continuing without cause or purpose, the will being too weak to inhibit it.

The original purpose of the movement, or posture, is usually apparent; it is a co-ordinate act, adapted to some definite object; as for example, a gesture of defense, or an expression of some emotion, as of grief, pain, fright or joy. These movements are repeated in response to an irresistable desire, and are followed by a feeling of satisfaction. These tics of which blepharospasm is a type, are more or less under the control of the patient, who can by an effort of the will do considerable to repress them, but such repression is followed by a vague feeling of discomfort.

The contractions follow each other at irregular intervals, and are rapidly executed, and may be repeated at great rapidity from two, to many times, when a lull occurs for an indefinite time. Any excitement or embarrassment promptly recalls, and intensifies the morbid motions.

On the other hand, any decided interest fixing the patient's attention, interrupts the twitchings. They also disappear in sleep. There are no sensory disturbances.

This affection is by no means rare. In the physical examination of a large number of children in the New York Public Schools, it was found that about one in eighty was affected with muscular tic.

In the etiology of this affection, as in all the neuroses of children, there are two important factors: First, the inherited predisposition, the favorable soil; Second, the environment, including the method of training. Both sexes are about equally affected. In this it differs from chorea, in which more than twice as many cases occur

in females. Tics rarely manifest themselves before the fourth year, most commonly observed about the seventh or eight year.

In predisposed individuals, slight things may act as exciting causes, such as physical or mental shock, traumatism or fright, infections diseases, by lowering the vitality.

Frequently the movement or gesture was originally performed for a definite purpose, for example; a child has a granular conjunctivitis,, or a foreign body in the eye, blinking is done with an endeavor to remove the cause of irritation, as the neck is scratched by the collar, and the finger is run around the neck to separate it. In the normal child as soon as the source of irritation is removed the act is unnecessary, but not so with the future victim of a tic. Here the act continues in response to that irresistable impulse those cases becoming more wide-spread involve the neck and upper extremities, so that attitudes and gestures are produced in conformity with the underlying mental idea. I will mention only a few of the more common forms of tics. One is the blinking of the eyelids or blepharospasm, which may occur with other movements of the face, hands or shoulders. Another is the licking of the lips, and another which is often met with, is the long drawn inspiration, with or without a sigh. Such children will some times complain of a heaviness on the chest, and can't catch their breath. On examination no true dyspnea is found, and the chest shows no pathological changes. The quick nod so frequently seen in girls, perhaps originated from a desire to adjust their hats.

Another form which is very important, on account of the proper treatment is the so-called "Mental Torticollis", in which some deviation of the head is customary, and is spasmodically maintained. Ordinarily it ceases when the patient lies down, or it can be controlled by a slight amount of manual pressure upon the head or face.

Spasmodic sniffing of the nose is another form, originally caused from adenoids, or acute nasal catarrh. Still another quite common form, is face grimaces, commonly called sun grins.

TREATMENT

Though not dangerous to life, few affections are are more troublesome to their victims than the twistings and twitchings of muscles, comprised in the above title. As the patients grow older, they are willing to take great pains to get rid of the unpleasant gestures, which thought not painful in themselves, cause a great deal of moral suffering, besides interfering with efficiency, both in business and social life.

The obstinacy of these afflictions has caused them to be looked upon with dispair by practitioners; but the medical pessimism with regard to them is not well founded, for they are in reality ameanable to treatment. If there are abnormalities near the site of the muscles affected, these should receive attention.

Conjunctivitis, especially the granular form, should be treated, errors of refraction corrected, adenoids removed, etc.

However, these can never be more than contributing causes, for the neurosis, the mental condition is always the essential factor.

Given the proper psychical peculiarities, almost any form of irritation may act as an exciting cause. Still, I believe it was who pointed out, that a tic may become more pronounced, at least for a time after an operation, probably from the mental shock; therefore for, "Mental torticollis" he says, "instead of operating on the patient, and advising muscular exercises for months after the wound has healed, it is better to try the effect of the exercise for months or even years, before deciding on the operation at all."

. Drugs, except tonics, are in most cases useless, unnecessary, and contraindicated. Electricity, hypodermatic injections act primarily in a mental way; others such as hydrotheraphy, massage, and tonics by improving the general health.

Of great importance is the regulation of the diet, and the mode of life. The patient should take mild exercise in the open air, but not to the point of fatigue. He should go to bed early, and should not engage in any excitement in the evening. In the mild cases, the discipline, regularity, punctuality, and attention required in schools are advantageous. But not so with severe cases, they should have a complete change of surroundings, with cessation of mental efforts. All the foregoing measures though valuable, are not sufficient themselves to effect a cure, and are only aids to the real treatment which is educational.

The method as originated by Herrman, is simple, and its very simplicity renders it possible for the patient and parents to carry out the treatment to a great extent themselves.

It consists of two parts: First, immobilization primarily of the affected parts: Second, active exercise of the affected parts.

The patient is seated before a mirror, the physician standing behind the patient, directs him to remain perfectly quiet, like a statue for a stated time. This has for its object immobilization of the parts affected, and gives to the patient an occular demonstration that he can control the movements, if he only wills so. This he is required to do for a longer, and longer time.

The second part of the treatment consists of active exercise of the muscles affected. For the eyes opening and closing, first together, and then separately. For the mouth and lips, opening and closing alone, and then combining with the opening and closing of the eyes.

Reading aloud, recitations and singing. For the movements of the head, flexion and extension, looking first up,

and then down, followed by lateral movements. All movements should be performed slowly, and regularly at command. Other authorities have advocated respiratory exercises. Letting the patient stand against a wall, his arms at his sides, his shoulders thrown backwards like a soldier, taking first a long deep inspiration, at the same time raising the shoulders, and then a long expiration, dropping the shoulders. Such exercises is especially valuable in respiratory tic, and recommended by Hammond for stammering.

I had the opportunity during my twelve or thirteen years of service as surgeon of the N. G. A. College, of watching the effect of a military training on three cases of muscular tic. Two was completely cured, the third left college after one year, hence I don't know the result in his case.

We should remember there is a tendency for these spasms to return, therefore, the patient should be kept under observation for a long time, and advised to persist in treatment, remembering that the reward of victory is cure.

References: Gowers, Guinan, Meigs & Feindel, Herrman, Hammond, Church-Peterson, Williams, Caille, Kerley.

REPORT OF SURGICAL CASES.

R. R. Kime, M.D., Atlanta, Ga.

Case I. Removal (three gallons) ovarian cyst. Patient age eighty years.

Case 11. Removal septic kidney. Patient age sixty-two years.

Case 111. Removal (one-half gallon) urine from right side. Patient age eleven years.

Case IV. Vaginal caesarean section in primipara for eclampsia.

Case V. Operation ectopic pregnancy and appendicitis.

Case I. Mrs. H., age eighty years—mother twelve children, youngest thirty-two years old, passed menopause without difficulty at fifty, no miscarriage and no history of uterine or pelvic diseases until present trouble.

First noticed enlargement, June 1908, nine months previous to operation. Had bloody vagnial discharge almost continuously for five months, but no evidence of malignant disease present. Inability to control urine at times; no swelling of extremities, some senile changes in blood vessels affecting heart to some extent, urine contained hyaline and granular casts, round epithlium but no albumen.

Patient suffered considerable discomfort and pain from presence and weight of tumor, so much so, that she requested removal of tumor if she died on operating table.

The patient was of slender build, tumor diagnosed as multilocular cyst, there being three distinct compartments in different degrees of tension, the largest with lowest tension on left side extending beyond median line

of abdomen; the second with medium tension on right side of abdomen the third of highest tension in right inguinal region and not movable, all together containing about three gallons of fluid.

Two weeks of treatment, good nourishing diet, tonics, alimentary disinfectants and diuretics materially improved patient's general condition and she was operated on at Tabernacle Infirmary, March 6th, 1909.

Median incision, fluid evacuated slowly from two larger cavities so as not to remove abdominal pressure too rapidly and cause collapse of patient; broad pedicle tied off with chromic cat gut, incision closed with layer cat gut and Murphy fig. eight-silk worm gut sutures.

Hypodermoclysis used immediately after operation.

Patient passed an unusual amount of urine involuntarily for several days after operation, otherwise made uneventful recovery, temperature not above 100 F. at any time. Patient up in two weeks, left infirmary in three weeks after operation.

Tumor was not removed in tact as advised by Mayos and Richardson (four per cent. being malignant and liable to infection) because of the danger in this case from too sudden removal of intra-abdominal pressure produc-collapse.

Besides the three large cavities metioned there were numerous smaller cysts in each the fluid varied in color from clear like water to straw, cherry and almost black.

Patient gained rapidly after operation, continued tonic, duiretics and diet. Wrote May 12, 1909, that she was in better health than in years. Nine months later patient returned to the city complaining of chills and fever, with pain, tenderness and some enlargement in right side.

Examination revealed enlargement size double first cystic in right inguinal region, fluctuating, not movable and tender on pressure.

Being so long after operation, the cyst having been removed from the right side and tied off with cat gut

we excluded infection from previous operation or from the ligatures.

Temperature ranged from 102 degrees to 103 degrees F. pulse 110 to 120, with evidence of septic infection which we thought was connected with right kidney—while investigating case the tumor discharged its contents through the bladder, purulent very offensive pus, temperature and pulse rapidly subsided, septic symptoms disappeared.

In three or four days a sudden, severe cutting pain came up, being summoned but detained a few minutes with another patient when I arrived the patient was easy, talking and laughing as if nothing had happened and showed me this largest stone about size and shape of thirty-two cartridge.

In a couple of days the same experience presented us with this second and smaller stone. After this the patient improved rapidly, urine cleared up materially—fewer casts, lucocytes, round, etc.

The enlargement and tenderness in right side disappeared after the discharge through bladder and patient returned home a week after passing last calculus.

Patient being in Atlanta on a visit first of March of this year, had the la grippe at which time I saw her twice. She soon recovered from acute attack no evidence of former illness found.

Case II. Mrs. G., widow, age sixty-two years, mother of two children, youngest twenty-eight years, suffering with hemorrhoids for which she was being prepared for operation when she decided to come to Atlanta.

Found her with slight elevation pulse and temperature, enlargement in right side, not very movable, somewhat tender, reaching from lower border of liver to right inguinal region, no history of renal or hepatic colic, never had jaundice, no severe sickness, some mental derangement and some loss of flesh—history mostly negative.

Urine contained pus, small amount albumen. Round

Ep. granular and hyaline casts. Patient was sent to Taberacle Infirmary for further investigation.

In two days temperature suddenly rose to 103 degrees F. gradually dropping lower each day until 100 degrees F. then another sudden rise without any distinct chill.

A surgeon in consultation diagnosed septic, distended gall bladder and advised operation accordingly.

Segregation of urine showed from left kidney, few leucocytes, some round Ep. few gran, and hy. casts. From right kidney one dram pus to one ounce of urine, round Ep., gran, and hyal. casts in abundance.

From urinary findings and careful palpation of tumor I was more fully convinced my first diagnosis of diseased kidney was correct.

Patient growing rapidly worse, delirious at times, operation was consented to as being the only hope of relief.

Operation December 21, 1907, incision one inch below twelfth rib in right lumbar region, kidney exposed, prolapsed and three time normal size, delivered and incised in Hyrtls exsanguinated zone for examination, found small pus foci and bled so freely closed up incision in kidney to check bleeding and did nephrectomy. Recognizing it as infectious, gauze and tubular drainage was left in lumbar incision.

Kidney substance contained numerous pus foci and pus in pelvis. Pathologist reported streptococci infection.

Patient recovered, mental condition materially improved and left kidney assumed function of right kidney without serious difficulty. Specimen of urine examined April 11, 1910. Did not show any casts but some lococytes probably mostly from vagina.

This case was of special interest and reported on account of the difficulty in differentiating from septic disease of gall bladder.

Case III. F. A., girl, age eleven years, fell six weeks previous, on sleeper of floor in a new building, landing

on right side. Shortly afterward had what was classed as typhoid fever lasting three weeks, then clear of fever about two weeks.

At intervals complained of pain and some tenderness in right side.

On Saturday, July 11, 1908, patient had convulsions unconscious, elevation pulse and temperature and enlargement in right side first noticed. I saw patient next morning, in semi-conscious condition, temperature about 101 F., pulse 115 to 120, a large fluctuating mass in right side reaching from brim of pelvis to one inch beyond umbilicus in median line, dullness continuous with liver.

With history and condition of patient, having passed some blood in urine soon after fall, injury of kidney and accumulation of urine with commencing infection was diagnosed and operation advised.

Patient was moved same day to Atlanta a distance of fifty miles and operated on next morning.

Incision one inch below and parallel to the twelfth rib on right side.

Four pints straw colored urine followed with some blood and pus escaped through incision, kidney adherent could not be brought out without too much traumatism, palpated with finger, no perceptible rent in kidney substance of pelvis found, a roughened surface and notch in lower border of liver was felt.

Gauze and rubber drainage tube inserted, wound partially closed. Drainage kept up for three or four weeks—urine discharged freely first week or two then gradually lessened and fistula completely closed in seven weeks.

Urine both before and after operation contained pus, round epithelum, gran. hayl. and epithelial casts, but ultimately cleared up entirely and patient in good health.

Case IV.. Female, colored, age eighteen—primipara, supposed to be seven and one-half months pregnant taken with convulsions early morning, elevation pulse and temperature. I saw patient in convulsion at ten a. m.,

having had several convulsions recurring every few minutes, unconscious, unable to swallow.

Hypodermic of Ver. Vir. Nor. also hyoscine and m orphine were given. No labor pains, os small and not dilatable almost complete suppression of urine.

Condition of patient demanded urgent action, vaginal caesarean section was decided upon and patient moved to Spellman Hospital.

Operation morning of May 11, 1909. Transverse cervico—vesical incision, bladder separated well up anterior wall of uterus, cervix incised anteriorly and forceps applied.

Required considerable force to deliver foetus, it was dead and probably a full term development. Could not be recussitated.

Incisions closed with cat gut sutures, patient made rapid recovery, kidney lesion cleared up, albumen, pus, gran. and hyaline casts abundant at first.

At Chicago meeting of A. M. A., 1908, in the obstetrical section the leading speakers advised every country practitioner to be prepared to perform vaginal caesarean section for puerperal eclampsia. That immediate delivery was demanded in all cases, and if parts are not in condition for such delivery vaginal caesarean section should be performed by the country practitioner.

Such advice is fraught with serious danger and if followed would add materially to the death rate in handling such cases.

It is a capital operation and should only be done by one accustomed to surgical work.

There are very few cases that can not be more safely and better handled by other measures if the physician is properly qualified and understands obstetrical work.

A few hours delay in delivery does not mean death in the great majority of cases if the patient is properly handled and prepared for delivery. Yet there are a few cases in which vaginal caesarean section is indicated and should be done.

Case V. Hrs. T., age twenty-eight, married three years, flows regular since marriage, missed one week first of April, then appeared with pain and free flow. Bowels obstinate, hard to move, vomited food eaten one or two days previous. Later passed undigested food by bowels. Two years previous had right salpingitis, appendicitis, and local peritonitis which cleared up and operation declined.

This attack was supposed to be a re-kindling of former trouble, bowels tender, swolen and painful, no satisfactory pelvic examination could be made.

Pain ceased, tenderness subsided, scant flow continued.

Two weeks later a second attack of pain, increased flow, vomiting, obstipation, bowels tender, swolen and with thick abdominal walls precluded satisfactory examination, a provisional diagnosis of ectopic pregnancy was made and operation advised.

Operation April 20, 1909, just one year ago yesterday which prevented my attending last annual meeting of this society. Opening first made in vaginal vault to confirm diagnosis then median incision in abdomen, omentum adherent to tubes, ovaries, uterus and intestines all in one mass. A portion of omentum was tied off dissected up and removed. Pelvis filled with blood and inflammatory exudate, intestines separated and found pregnancy had occurred in left tube and ruptured. No foetus found.

Tube and ovary so degenerated and brittle could not tie off, had to remove piece meal and close raw surface and stop bleeding with continuous over and over cat gut suture.

The extensive raw surfaces on intestines uterus and in Douglas' Pouch could not be covered in, vaginal and abdominal drainage used.

The extreme critical condition of patient precluded prolonging operation to remove right tube, ovary and appendix.

Patient was placed in Fowler position and proctoclysis used for nearly three days. Hypodermoclyis used at operation.

Patient made good recovery without hernia although infection was present and affected abdominal incision.

Six months later patient had a rekindling of appendicitis and trouble with right tube.

A second operation was performed October 16, 1909, median incesion dissecting out old scar, intestines adherent to right tube, uterus and old sight of ectopic pregnancy, appendix adherent to right tube and ovary.

Adhesions broken up, right tube, ovary and appendix removed. The tube was more than one inch in diameter at fimbriated extremity and filled with a clear fluid which was probably purulent at first, having undergone a change from its primal development before removal.

Patient made an uneventful recovery, proctoclysis being used as in former operation.

In closing this report I desire to stress the importance of drainage, Fowler position and proctoclysis in critical cases of abdominal section with or without infection.

As ordinarily used proctoclysis is not of much benefit and very unsatisfactory even in hospital work.

To obviate this difficulty and get the full benefit of the Murphy method I have devised this apparatus which is simple, easily regulated and solution easily kept warm.

The aparatus can be used equally well in private as in hospital work and by any nurse of ordinary intelligence.

SIMULTANEOUS CATHETERIZATION OF THE URETERS.

Alfred L. Fowler, M.D., Atlanta, Ga.

The brilliant results in kidney surgery, now being reported from all over the world, are due largely to our greater precision in renal diagnosis. Ureteral catheterization has made this possible.

Before the advent of ureteral catheterism the principal reasons for post-operative deaths were:

(1.) Congenital absence of a second kidney, and

(2.) A diseased kidney incapable of proper functionating capacity sufficient to preserve the patient after the operation.

Ureteral catheterism discloses if both kidneys are present, tells us from which kidney the pus comes, enables us to determine the functionating capacity of each kidney, points out from which kidney comes the hemorrhage, and with the wax-tipped catheter detects stone in the kidney pelvis and, lastly, stricture of the ureters.

The bladder mucosa and ureteral openings, as viewed through the cystoscope, disclose a great amount of information to the trained eye. For this reason we study the bladder membrane well before engaging the catheters and passing them up to the kidney pelvus. Catheterizing the ureters, is exact, practical and safe and out of more than a thousand cases that I have catheterized I have not observed a single instance where the slightest harm has come from the procedure.

In illustration of the practicability of the method together with its usefulness I cite you as follows:

A recent case, referred by Dr. A. P. Flowers, gave a history of a sudden attack coming on at night of painful and frequent micturition, without any assignable cause.

The doctor treated him for cystitis, and as the condition failed to clear under appropriate treatment he very rightly presumed his patient's kidneys were at fault. There was no pain in the kidney region.

I cystoscoped him and found the mucosa on the right of the trigone injected, in well isolated areas, a beefy red with many patchy necrotic areas. The right ureter opening on this side dilated and contracted normally, as did its fellow, but was a little injected.

After passing the ureteral catheters to the kidney pelvis we found the separate specimens to show milk tinted urine from right kidney and clear amber colored urine from left. "T. B." bacillia were detected with microscope and the injected urine into abdominal cavity of guinea pigs killed them in four and five weeks and whose peritoneal cavities were found to be studded with tubercles.

A recent case referred by Dr. E. D. Highsmith, was one of hematuria, without any symptoms of cystitis. Cystoscopy showed normal bladder mucosa and normal ureter openings. We catheterized the ureters and scarlet urine drained from patients right kidney while clear and normal urine came from its fellow and which determined absolutely the source of the hemorrhage.

A more recent case, referred by Dr. C. W. Strickler, had pain in right side, inner side of right thigh, an intense cystitis, and marked pyuria. Cystoscopy showed a "golf hole" ureter on right and numerous erosins of bladder mucosa.

Ureteral catheterization disclosed a suppurating pyelitis on right while the urine coming through the other catheter was normal. Urea estimation two per cent. Patient consented to a nephrotomy which I did two weeks ago. The intense cystitis and pain in thigh and kidney region have entirely cleared.

A patient referred by Dr. J. S. Todd and Dr. H. F. Harris had marked cystitis, much tenesmus and had recently lost fast in weight. A perineal drainage done by

another physician had given him no relief.

I cystoscoped him and found his bladder walls literally hung with long lacy processes and it was with difficulty that I catheterized the ureters, so marked were the changes.

I sent the separate urines from the two kidneys to Dr. Harris informing him that clinically we had to do with a cancer of the bladder. The doctor found the urine normal.

All three of us agreed that suprapubic cystotomy for permanent drainage was loudly indicated, to which patient consented. I opened the bladder by the high route, gave a specimen of the tumor to Dr. Harris, and established permanent drainage. The doctor pronounced the specimen carcinomatous.

A very interesting case that came into my hands through Dr. Swain, was that of a man forty-two years of age. Pain in left kidney region, also near end of penis and in inner side of left thigh with a history of polyuria, and occasionally cloudy urine. Cystoscope showed left ureter gaping and injected, bladder mucosa otherwise normal.

A No. 6 ureteral catheter was passed easily up to right kidney pelvis but a like catheter met with obstruction three inches from mouth of left ureter. I then attempted to pass a smaller one, No. 4, but failed.

After trying with a small whalebone or filiform, No. 2, I finally passed the obstruction and as I did so a pure jet of cloudy urine appeared continously for about a minute. I decided to leave the filiform in place as long as the patient proved uncomplaining, but after about four hours he complained of severe pain in left testicle and the testis on that side was found drawn clear up to the internal abdominal ring, so the filiform was removed.

This obstruction proved to be a stricture of left ureter. With patience and persistence I have dilated gradually this ureter once in ten days during a period of five months, up to a No. 8, French. His urine is clear and today the patient states he is free from any pain.

DIPHTHERIA AND ITS RELATION TO THE LABORATORY.

K. R. Collins, M.D., Atlanta, Ga.

A disease corresponding in its description to diphtheria occurred in the earliest Babylonian days. No mention of such disease, however, is found in the history of the Greeks. Hence, it is supposed to have been introduced into the European countries from Egypt. Much controversy arose during the Sixteenth century concerning the pharyngeal type of the disease, especially its relation to membranous croup. This discussion took place principally in France, where the disease made great ravages. A nephew of Napoleon, son of the King of Holland, died of croup and later the Empress Josephine. Napoleon offered a reward at different times to anyone who would establish the relation between these two diseases. Many observers attempted a solution of the problem, but it was not until 1821 when Bretonneau published an essay so complete in its observations that little was added until the diphtheria bacillus and its relation to the disease was established in 1883, first by Klebs and later confirmed by Loeffler. From this time on the therapy and etiology of the disease has been thoroughly studied, so that at the present day with a specific cure in our hands, an understanding of the etiology and the method by which it is spread, the disease is comparatively little to be dreaded excepting in a few instances. Prompt action in the administration of antitoxin early in the disease and rigorous methods resorted to for the prevention of contagion are the chief requisites to place it in the roll of amenable diseases.

The chief sources of infection are from human to human, or from articles of clothing, pencils, etc., that are

used about a patient ill of this disease. School children are a frequent source of the spread of this disease from the fact that children with sore throats are allowed to go to school, and, as we all know, they are very careless in handling slate-pencils, books, slates etc. of their companions. Where this supposed simple sore throat developes into diphtheria a great deal of harm has already been done before recognition of the disease occurs. Milk is another source of contagion where the disease occurs in a family of dairymen or among the milkers or others caring for the milk in any way, and carelessness on the part of individuals in cleaning bottles to be returned to the dairy from homes where the disease exists. Flies can carry the disease, but as the life of the diphtheria bacillus under such conditions is short, as will be stated later, the danger is not so great in this disease as in typhoid and other diseases of bacterial origin.

Guinea pigs, rabbits, chickens, pigeons, birds and cats are affected by the toxines from the diphtheria bacillus; dogs, goats, cattle and horses in a much less degree, while rats and mice are rarely affected. The disease has sometimes been conveyed by cats, but the disease which developes frequently in animals is due to an organism similar to the diphtheria bacillus, but which cannot produce the diphtheria in man, and antitoxin has no effect upon such cases.

The bacillus persists in the throat after infection for varying periods of time, from three days after the disappearance of the membrane to nine weeks, according to Park and other authorities. Virulent bacilli may be found in the throats of healthy individuals who have been brought in contact with the disease. Such individuals are a source of danger to those who come in contact with them, not perhaps to such a great extent as the individual having the disease, on account of their being practically no discharge from the throat, but nevertheless it is perfectly possible for them to convey the disease

to others. The diphtheria bacilli are readily killed by exposure to sunlight, but but in membrane that remains moist they may remain alive for months. They have been found in scraping from dry membranes after several months. They have been found on slate pencils after some weeks, but on coins they die out in a few hours. They will live in milk at a temperature as low as twenty degrees without any effect on the milk.

Sore throats that are in the least suspicious demand a bacteriological examination. Where clinical evidences of diphtheria exist it is frequently advisable to give antitoxin without waiting for the results of this examination, but even then bacteriological examinations should be made, and a culture is taken if possible before the antitoxin is administered. This confirms the diagnosis and I am sure that every physician will find it helpful to him in future cases. (I cannot urge too strongly the necessity of bacteriological examinations.) It is sometimes necessary to make more than one examination before the bacilli are found. This is particularly true of the laryngeal cases. There are instances where the bacilli under such conditions have never been obtained with a swab, but have been found in great numbers in the sputum. Careful examination of the ears is necessary in cases of diphtheria, as it is not unusual for the disease to be located here. The conjunctiva of the eye may be affected by the diphtheria bacillus, but this should not be confused with a condition occurring in this location which is produced by the xerosis bacillus. While this organism resembling one of the pleomorphic forms of the diphtheria bacillus, morphologically it is not related to it in a bichemical sense, and their toxins and antitoxins do not interact.

Health officers differ somewhat in the number of examinations to be made after recovery and before the release of the patient. Where the bacilli persist for a number of weeks or months after the disappearance of the membrane, the patience of the physician is often sorely tired by importunities on the part of the family or the

individual being quarantined. Yet instances have occurred where after several weeks the patient has given one negative culture been released and diphtheria has developed in a member of the same family several days after his release. Upon re-examination the individual has shown the presence of diphtheria bacilli in the throat. In my opinion, at least, two consecutive negatives should be required before release of the patient.

The value of antitoxin in the treatment of diphtheria is, of course, beyond question. The mortality decreases in ratio to the time of administration with reference to the stage of the disease. The percentage of recovery where antitoxin is administered early and in sufficient quantities is about 92 per cent. Cases that are seen later in the establishment of the disease the chances diminish according to the severity and length of time that the disease has been established. Large doses of antitoxin given consecutively do not give untoward results. Where the results have been unfortunate the doses have often than otherwise been smaller than the first dose. Antitoxin has been given in quantities up to 100,000 units without bad results. Many symptoms occurring at any time after the administration of antitoxin have frequently erroneously been attributed to use of the antitoxin. Rashes may sometimes occur anywhere from a few hours to ten or twelve days after the administration of the serum. These rashes, while alarming to the family are harmless, and disappear within a few days, the discomfort being the only feature to be considered. In about one case in ten thousand the effect of antitoxin has been detrimental. It is generally conceded that three things may play a part in this; first, a person suffering from asthma may show marked cyanosis with collapse and death. This will happen with a small dose as well as large dos eor the first dose administered. Sudden death has occurred after the administration of the first dose. This is supposed to be due to a condition known as status lymphaticus. This is a condition that is seldom recognized

during life, and is of such rare occurrence that it need not be counted as a prominent factor in the contra-indication of the administration of antitoxin. The part that anaphylaxis may play in the use of this agent has been discussed in a previous paper. I will merely emphasize it as a point to be considered in the giving of antitoxin. The fatal effect of the first dose could readily be explained by a condition of what we might call normal anaphylaxis, corresponding to normal agglutins, normal immune bodies, etc. Just in what way the so-called normal anti-bodies are produced has never been satisfactorily explained. In the case of normal agglutins and normal immune bodies the specificity is not marked, but they are common to a type rather than peculiar to the individual. It is possible that in susceptible people the proteid equilibrium has been interfered with in such a way that either an analagous substance is produced and absorbed or split products, derived from an analagous may have stimulated this hypersensitiveness in the individual, so that a first dose of any proteid belonging to a common type would call forth the same result. It might be well to make the statement here for the benefit of those who are not already acquainted with the fact that the State Board of Health is prepared to send out diphtheria antitoxin for the use of the citizens of this state. It is provided by the legislature that the antitoxin be distributed through the ordinaries of the counties, and application should be made to this office. The antitoxin is concentrated according to the Gibson method. This removes from the serum a number of proteids which are not concerned in the production of antitoxin, as the antitoxin is always found with the globulins of the serum. This is advantageous from the fact that it reduces the number of rashes and the concentration admits of a larger dose per bulk. It must be remembered, however, that concentration does not in any way reduce the possible

dangers from anaphylaxis, as the proteids that are left in the serum, as well as the globulins, are quite capable of forming this substance in the blood. Every effort is made to insure to the state an efficient article. The tests, both as to strength and sterility, comply with the requirements established by the Marine Hospital.

SOME DIAGNOSTIC POINTS OF MENTAL DISEASES AND WHY THE COMMITMENT PROCEEDINGS OF THE INSANE OF GEORGIA SHOULD BE ENTIRELY REVISED.

J. Cheston King, M.D., Atlanta, Ga.

Before bringing out any of the cardinal points of my subject, I wish to impress upon this medical body that mental disease is the result of disease of the brain, and is not a mere immaterial disorder of the intellect the brain is an organ through which mental phenomena is manifested, and therefore, it is impossible to conceive of an insane mind in a healthy brain.

Twenty-three centuries ago the learned physicians of Greece and Rome had emancipated themselves by scientific induction from brutal superstitions, and they clearly and boldly taught that insanity was brain disease with prominent psychical symptoms ;that there are mental and bodily causes; that medical and diatetic means of cure should be employed

It was Hypocrates, 460 B. C., who propounded certain truths which formed the basis of the science of psychiatry. He demonstrated that the brain was the organ of the mind, and that it was subject to physical laws and diseases like other organs, and that insanity followed abnormal conditions of the brain.

Before this time the civil and social status of the insane and their treatment were determined by religious and superstitious hypotheses; they were regarded as afflicted by the gods or possessed by demons. Do you know that even to this day and time, there is among the laity some remnants of the middle ages. They absolutely act

towards and speak of the mentally unbalanced with hushed breath and mortification.

But the middle ages at last gave way to the philosophic phase of medical science of the seventeenth and eighteenth century after the appearance of Kepler and Gallileo, after Descartes had founded modern philosophy, after Bacon had aroused the thinking world by his inductive method in the study of nature, and after Harvey had published his researches on the circulation of the blood.

It was in the eighteenth century through the labors of Jacobi, Vering, and Fredrich, all of Germany, that there was a systematic study of the Somatic symptoms and to the doctrine that physical disease was the cause of insanity.

The Somatic School established a belief in the sure of insanity, a point of great importance with reference to the general amelioration of the condition of the insane, who had ordinarily been dealt with as beyond hope of cure.

So from these rapid advances of the human mind, we can but truly feel as the author, who said: "That knowledge is not a couch whereon to rest a searching and restless spirit, or a terrace for a wandering and variable mind to walk up and down, with a fair prospect, or a tower of the state for a proud mind to raise itself upon, or a fort, or commanding ground for strife and contention, or a shop for profit and sale; but a rich storehouse for the glory of the Creator and the relief of man's estate."

Before giving out some diagnostic points of mental diseases, a classification is necessary. Each part of the brain has its special functions, and to a certain extent is independent of each other.

One part is essential to vital processes, hence its destruction causes death; another part presides over the various movements of the body, hence paralysis of motion is the result of destruction of any portion of this area;

a third part enables the mind to appreciate touch, temperature and pain; a fourth presides over sight; and in the same way smell, hearing, and taste are governed by distinct portions of the brain.

In our contact with mental diseases, four leading classes stand out prominently before us: viz.: Amentia, Dementia, Mania, and Melancholia.

Amentia: Under this heading there are two forms: (1.) Idiocy and (2.) Imbecility.

By describing idocy we mean a congenital malady, and the idiot is one, who by reason of his perpetual infirmity, is non compos mentis. The vitality of the general system is less than normal, the palate is vaulted and narrow, the teeth misshapen, wrongly placed and prone to decay, the patient is dwarfish, the head unsymmetrical, and some times the commissures are atrophied.

Inbecility: This term is distinguished from Idiotism in that the mental defect is manifested in the first years of childhood, and does not reveal itself as early as idiotism. True the fainter shades of imbecility pass into the lighter tints of idiocy. But the possession by the imbecile of the faculty of speech as distinguished from the parrot-like utterance of the few words which the idiot can learn, is one of the best lines of demarcation.

This class of children as a rule are unruly, vicious and cruel. They are intellectually as well as morally deficient, and cannot control their emotions or passions.

There is a class of imbeciles who exhibit intellectual deficiency without offending against morality, and still another class, who combine the highest intellectual endowment with utter incapacity in the conduct of life—so we have the intellectual, moral, and general imbecile.

The form of imbelicity which is most common and most important in a medico-legal point of view is that which affects the intellect, the morals and the conduct of life.

Persons who exhibit this threefold deficiency, profit by education so as to form and express ideas to read, write,

and count to become musicians, draughtsmen or mechanics. They may even attain proficiency in some branch of knowledge; but they do not profit by opportunities afforded them. They present great varieties of character. Some are fickle and changeable and incapable of fixing their attention others methodical and persevering. Some are fit for the coarsest labors, while others duly assisted and guided are equal to the conduct of business and management of business, but are unequal in emergencies and unable to sustain close conversation or argument. They have a very imperfect idea of the laws of society, morality, courts and trials; and though they may have an idea of property, they have no conception of the consequences of theft.

Some writer has said: "These beings of limited capacity furnish to the courts of justice, to prisons, and scaffolds, more subjects than is generally supposed."

The moral imbecile remains at large, because the intellect being unaffected, they have no distinct delusion; and as weakness of intellect is a necessary ingredient in the legal idea of imbecility, the attempt to prove such persons of insane mind in a court of law necessarily fails.

That absence of moral sense and corresponding want of self-control, which is the essence of their mental malady, can be proved only by the history of their daily life; a history often hard to explain and generally studiously withheld. There is one class of imbeciles that should not be overlooked. They are very apt and really precocious in the first few years at school, but at puberty their mental capacities retrograde, and what they have accomplished in the past vanishes, and mental development closes. Now this occurs suddenly.

The question of responsibility for such acts as arson and murder can only be answered by weighing well all the circumstances of the act, and the whole life and character of the accused, and ascertaining the motive by which the act was instigated. It is in imbeciles more than in other persons of insane minds that the test of the

knowledge of right and wrong utterly breaks down. So from what I have said on idiotism and imbecility, the boundary line between the two is evanescent. The imbecile patient is capable of pursuing some calling, and the idiot simply occupies space and has no voice in the body politic.

Dementia: Is a functional psychosis, manifested by paralysis of the mental facuties.

It is distinguished from the two forms of amentia just described in that it supervenes slowly or suddenly in the mind already fully developed, and in childhood, manhood, or old age. It differs from mania, for it consists in exhaustion and torpor of the faculties not in violent and sustained excitement.

We recognize an acute and chronic form of it. The first is rare and consists of a profound melancholy; the second is common and characterized by incoherence, but said incoherence is different from the incoherence, of mania, for it is void of excitement. There is also a Senile dementia. Dementia has its stages of forgetfulness, irrationality, incomprehension and inappetency. We find in this class of patient a want of memory, then loss of reasoning, lack of ability to comprehend, the pulse is retarded, and the temperature is subnormal, the later there is an abolition of the common instructor of volition.

In acute dementia, caused from sudden mental shocks, the mind seems fixed and arrested in sad abstraction on the event which occasioned it.

The chronic form of dementia is often brought on by some slow acting cause, such as prolonged grief or anxiety, sometimes it follows fever, appoplexy or paralysis.

It has been ascertained that the inhalation of a poisonous vapor like mercuric methide can induce in a perfectly healthy man a state of brain passing gradually into the most hopeless dementia.

Senile Dementia arises from causes acting slowly and gradually. The first symptom is impaired memory of re-

cent events, with dullness of perception and apprehension, and inability to fix the attention or follow any train of thought. The things heard five minutes since are forgotten. Memory, reason and power of attention are entirely lost, but the muscular force remains intact.

In the acute forms of this mental trouble, under proper environment and treatment, about eighty per cent. of the cases recover. It lasts from a few days to several months.

Mania: This term includes all the forms of unsoundness that are characterized by undue excitement, while in melancholia there is hyperaesthesia of the feelings, while in paranoia, the primary element is the disturbance of the laws of association.

The delusions of the paranoiac and the melancholiac are practically the same. The line of destruction lies in the fact that the paranoiac believes that his persecutions are unwarranted, that men are enemies of his—without cause. He defends himself and defies his persecutors. The melancholiac feels that God, through his aggressors has justly punished him for his transgressions.

General mania affects the intellect, the emotions, and the passions, and throws the whole mind into a state of mingled excitement and confusion.

Mania, no matter what form it is, unless it be the immediate consequences of injuries, moral shocks, intoxication, poisoning, or acute disease, is commonly preceded by important bodily and mental changes which occupy a variable period from a few days to fifteen or twenty years.

If the period of incubation is short, the disease shows itself at the end of some hours or days of anxiety, uneasiness, and sadness, by headache, sleeplessness and excitement. The patient begins to cry and sing, becomes wild and agitated, and seems like a person intoxicated. Now, when the period is extended, the disease generally begins with a consciousness of some disorder of the mind, characterized by odd motions, unusual inclinations, and

changing affections. The patient is vexed at the change and tries to conceal it; continues his occupation; and like a man in the first stages of intoxication, makes every effort to conceal it. Meanwhile his health gives way. He suffers from insomnia, he loses flesh.

His habits, his tastes and his affections, become entirely reversed. If his nature was open and candid he becomes suspicious and jealous. His entire nature changes to the extreme, after the period of incubation has passed, and the disease fully established, the patient has faith in his delusions, no longer conceals his thoughts, but openly proclaims them. When opposed he uses violent measures. He sustains a long time without sleep. Then we have that form of mania known as partial sensory types, in which there are illusions and hallucinations.

Also monomaniacs are of a class of cases of general intellectual mania, in which the senses are the sport of illusions.

Hoffbauer has maintained: "That mania may exist uncomplicated with mental delusion; it is, in fact only a kind of mental exaltation, a state in which the reason has lost its empire over the passions and the actions by which they are manifested to such an extent that the individual can neither repress the former, nor abstain from the latter. It does not follow that he may not be in possession of his senses and even of his usual intelligence, since in order to resist the impulses of his passions, it is not sufficient that reason should impart its counsels, he must have the power to obey."

We now come to our last classification: viz.:

Melancholia which is a psychosis, characterized by the most exaggerated feelings of depression and gloom.

The patient is always sad and full of the most anxious forebodings, with a distaste for all his former interests and pursuits, but without definite delusions. He feels that he has been damned, that he has committed the un-

pardonable sin—and to use the exact expression of one of my patients—that he is ten thousand times the meanest man in hell.

His misery appears so unendurable that if the opportunity is offered, he resorts to suicide. Marked impairment of health and nutrition is generally associated with it. There is loss of appetite, feeble circulation, emaciation, obstinate constipation, furred tongue a dry harsh skin—sleeplessness is a usual symptom. Melancholia is a disease of middle life, and is generally attributed to grief, anxiety, overwork. Hereditary predisposition is sometimes an important factor.

Melancholia—especially of the hypondriac type—often passed in to dementia.

What has been said is but a very brief outline of some condensed diagnostic points of our modified classification of mental diseases.

For a few moments we will now dwell on the commitment proceedings of Georgia in reference to its insane and endeavor to show why the law governing same is not in advance with the times. Since the civil and social status of the insane and their treatment is no longer determined by religious and superstitious hypotheses, and they are not regarded as possessed by demons, then should our laws governing their entrance into state institutions be most humane, prompt and effective—and the trial by jury of these unfortunates be relegated to the dark ages.

I claim that to subject the insane to a trial by jury is a vestige of cruelty, and there is no more sense in submitting the sanity or insanity to a jury of laymen, than there is in presenting before said body the existence of pellagra. We should have a law that would act speedily to the insane because of their illusions, rather than a law as we have that places the criminal in the same category as the unfortunate insane.

Insanity is necessarily a medical proposition, and whether a person be tried by jury or a commission, the

case is based on medical opinion, and too much emphasis cannot be placed on the fact that incipient and acute cases of insanity should have the earliest scientific treatment.

Now, how do our Georgia laws operate in reference to its insane? Perhaps a young mother develops mania—after childbirth—She is tried before a jury of six laymen and one physician in the same manner as a thief or murderer. After a verdict is reached several days must elapse, before she can be removed to the State Sanitarium for rest and medical attention. If she is poor and her people have not the income to place her in a private institution, and she cannot be cared for at home, where is she placed in the intervening time? In a jail—whose companions are murderers, abandoned women, rats, and vermin. When there is an epidemic of contagious or malignant diseases in our state, is it necessary to have a commitment by jury before the persons so afflicted can be placed in pest houses? No—yet does not the same apply to people who are insane? Does not the community demand protection at once?

Commitment by jury is an antiquated method and is a great hardship to the patient, and most humiliating to the relatives—and is but a remnant on our statute books of Egyptian darkness. What do the laws of the various states of the Union say:

Alabama—Judge of probate may act with or without verdict of the jury, at his discretion.

Arizona—Probate judge may act.

Arkansas—Probate judge or county judge may act.

Colorado—County court or judge, and jury if the alleged insane person so elect.

Connecticut—Judge of superior court may act.

California—Judge or jury (if demanded) upon proper testimony.

Delaware—Written order of chancellor of state trustees.

Florida—Circuit judge or county judge.

Georgia—Petition to the ordinary, who must act upon the verdict of twelve men.

Illinois—Petition to the judge of the county court, and a jury of six percons, one of whom shall be a physician.

Indiana—Two justices of the peace and a respectable practicing physician.

Iowa.—Commissioners of insanity receive applications, make inquiry into the patient's condition, hear evidence, etc., with power to commit. (See also laws of Dakota.) May appeal to district court from findings of commissioners.

Idaho—Any judge of court of record may act.

Kansas—Probate judge or jury of four men, one of whom shall be a physician.

Kentucky—Circuit court judge and jury required.

Louisiana—Judge of the district or parish court may act.

Maine.—Municipal officers of the town constitute board of examiners. Commitment on the certificate of at least two respectable physicians, based upon view, inquiry, and personal examination, etc.

Massachusetts.—Judge of supreme court or superior court or a judge of probate court may commit any insane person who is a proper subject for treatment or custody. No commitment without the certificate of two physicians, each of whom to be a graduate, etc. Violent persons may be received at hopsital without warrant of commitment for not exceeding five days without an order of the judge, as provided.

Michigan—The judge of probate or jury of twelve men.

Minnesota—Judge of probate may act, assisted by two persons, one of whom shall be a duly qualified physician, and the three shall constitute a jury, etc.

Missouri—Probate court shall cause inquiry and decision by jury to be made.

Montana—A district judge acts. Must subpoena two

physicians to make examination and testify and sign certificate.

New York—Certificate of two physicians under oath, setting forthe the insanity of such person within five days from day of confinement. Certificate must be approved by a judge or justice of a court of record of the county or district, etc. Judge may institute inquiry and make proofs as to lunacy before approval or disapproving such certificate. Judge may in his discretion call a jury to determine the question of lunacy.

New Jersey—Order of court of common pleas court judge authorized to send patients, etc., and request, etc., having been first lodged with the superintendent of the hospital or asylum upon certificate of two physicians.

New Hampshire—Order of court or the judge of probate on certificate of two respectable physicians, etc., and such certificate shall be accompanied by a certificate of the judge of the supreme court or a court of probate, a mayor, or a chairman or a selectman testifying to the truthfulness of the signatures of the signers.

Nebraska—Commissioners may act. Must have testimony of one physician.

Nevada—District judge and two physicians.

New Mexico—Commission any jury, as the circumstances may seem to require.

North Carolina—Clerk of the superior court acts on testimony of at least one pyhsician.

Maryland—Circuit court of the county, etc., shall cause a jury of twelve to be empaneled and pass upon the question, etc.

Ohio—Probate judge on certificate of medical witness.

Oregon—County judge may act. Testimony of one or more physicians.

Pennsylvania—Two or more reputable physicians under a personal examination made within one week of the date of their certificate, and the certificate to be duly acknowledged and sworn to or affirmed before a jury or magistrate of the county that such person has been ex-

amined, who shall certify to the genuineness of the signatures, etc., and the standing and good repute of all of the signers. So it is seen that only eight states of our Union require commitment by jury. In fact, most of the European countries in dealing with insanity cases have done away with the inquisition by jury. Our Georgia law in this respect is just about one hundred years behind the pace of progress.

This association should use its influence in having enacted a new lunacy law, eliminating the necessity of a jury trial. There should be a regular form for the commitment of a patient made out by two nearest relatives—setting forth why they believe the patient is of unsound mind; an affidavit should then be made by two competent physicians, certifying that they have made an examination of the mental condition of the person, and that in their judgment, said person is of unsound mind, and is a fit subject for treatment in the state sanitarium.

The judge of the superior court or the ordinary's court issues thereupon an order committing at once the patient to the state institution.

And on this line of state legislation, without going into the duties, powers, etc., there should be enacted a law for the appointment of a state commission in lunacy, with compensation fixed by the state, and every civil and criminal case into which is injected the plea of insanity, should be examined by this commission and their findings announced.

Then we shall have arrived at the recognition that insanity is a physical disease, and that judges need expert medical advice instead of the opinion of a jury of laymen.

When we shall have accomplished this, then we shall have pased out of the darkening storms of primitive civilization, and emerged into the noontide splendor of moral grandeur and usefulness, upon which all the people under the sun may point to medical reasearch with pride and hope.

TENOTOMY.

Theodore Toepel, M.D., Atlanta, Ga.

Two principal methods of tenotomy are in general use, the subcutaneous and the open operation.

The subcutaneous was first performed by Stromeyer in 1831, when he severed the Tendo-Achillis of a nineteeen year old patient. This method is still employed a great deal, especially in lengthening of tendons, and the open method is used whenever it is considered safer to expose the tendons and avoid injury to the adjacent structures.

The term tenotomy embraces lengthening or shortening of tendons and tendon transplantation.

According to Wilson, tendon splicing was first suggested by Rhoades, of Philadelphia, was first performed by Anderson, and was first described by Keen.

The dividing of a tendon is done by various methods, the one I prefer is to make a longitudinal section, then the upper and lower portions of the tendon are divided by a cross-cut, from the longitudinal incision outward, thus making a section as illustration shows (Plate I). Since this method was first performed by Anderson, it is known as the Anderson method.

Immediately following a well performed operation of lengthening a tendon by either the open or subcutaneous method the process of repair begins by the effusion of a fluid, or semi-fluid lymph from the tendon ending and tendon sheath. Usually very little blood is effused into the space, if much blood has been effused, it retards the formation of the proper exudate. This exudate takes no part in the reparative process and usually ceases in twenty-four hours. From three to seven days after this the reparative cells make their appearance and fill the entire space between the divided extremities. It is very

interesting to observe that this reparative exudate is always sufficient to fill the space between the severed ends, which in some instances is very great.

Dr. Willard showed me a case where the ends were separated three inches and firm union had occurred.

Technic:: In performing subcutaneous tenotomy much of the success depends on the technic. It is well to have tenotomes of various shapes and cutting surfaces. (Plate II.). Anesthesia is not absolutely essential, but is usually employed to overcome movements on the part of the patient which might interfere with the operation. It is needless to go into details as to the preparation of the part for the operation before a body of intelligent physicians, except to say that the aseptic preparation of the part must be very carefully carried out, particularly where the open operation is performed, this caution also applys to the surgeon. The tenotome is carried flatwise beneath the close to the under surface of the tendon, the cutting edge is turned against it and the division accomplished by a slight rocking motion. The puncture is dressed in the usual way, wet bichlorid compress, gauze and cotton and then the parts are placed in a slightly over-corrected position and retained in position by a plaster dressing. The wound need not to be inspected for ten days unless pain or elevation of temperature calls attention to the part.

After treatment requires as much if not more attention to detail than the operation itself, and on this depends much of the success. At the expiration of ten days the parts should be inspected and if in good condition it should be placed in an adjustable retentive apparatus. At least once a day the parts should be massaged and manipulated, particularly over the muscles and tendons which were formerly contracted. This is very important and tends to free and strengthen the tendons. The retentive apparatus must be worn day and night so as to prevent any tendency to relapse. Electricity should be applied to the whole part to improve the nutrition of the

skin and deeper structures, but it should be more particularly applied to paralyzed muscles.

Tendon Shortening: Tendons may be shortened by an oblique division and an overlapping of their end or they may be folded upon themselves, or they may be ruffled. In shortening a tendon by the first method, as the tendo achillis, the tendon must be exposed by a longitudinal incision and divided in the direction of the fibres by a central incision which is cut out at each end. The cut surfaces are then slid past each other and the deformed part is placed in such a manner that the overlapping may be accomplished. Very fine sutures are inserted to hold the cut surface in position, the sheath is held together with a second row of sutures, and the skin is held together with a third row of sutures. The usual dressing is then applied and the parts are held in position by a plaster bandage.

Transplantation of Tendons: There are three methods of transplanting tendons. The first consists in dividing the tendons of a sound muscle and inserting it into a slit in a paralyzed tendon, in this fashion a slit from the exvided tendon is again attached in the same manner in an upward direction into a tendon of another sound muscle. In this manner the tendon of the extensor proprius halluci may be attached to the tibialis anticus and the distal extremity may be attached to the extensor longus digitorum, (Plate III.). The second method consists in taking a slip from a sound tendon and inserting it into a slit in a paralyzed tendon, in this fashion a slip from the extensor proprius hallucis may be attached into a slit of the tibialis anticus, (Plate IV.). The third method consists in dividing a sound tendon and attaching it near the insertion of the paralyzed tendon. The distal extremity is then attached to another sound tendon. For example the sound tendon of the extensor proprius hallucis may be attached to the periosteum of the scaphoid bone. the distal extremity of the cut tendon then being

attached to the extensor longus digitorum (Plate V.). The greatest care must be observed in the technic of this operation to have it thoroughly aseptic. The method that I have found the simplest and the best of transplanting tendons is to carry the sound tendon into a slit which has been made in the paralyzed tendon, securing it in place with interrupted sutures. Where tendons are carried for some distance for purpose of transplantation tunnels must be made for them with a blunt instrument beneath the subcutaneous tissue. The advantage of attaching tendons at a new point in the periosteum is that the operator has a free selection of the point of insertion for the transplanted tendon. Where the tendon is too short to reach the periosteal insertion, it may be attached by silk strands, which afterwards become enclosed in a deposit of fibrous tissue, layer upon layer, so that it, after a time, becomes a tendinous band in the centre of which is the silk thread. The after treatment is the same as described heretofore.

It is desirable to fix the parts preceeding the operation for six to eight weeks in the expectant ultimate position, mation, of the tendons with no danger to tearing out of sutures.

Satisfactory results of transplanted tendons depend this preparation will enable a more accurate approx-i-to a great extent upon the following ennumerated technical points: I. Make correct diagnosis of paralyzed muscles and make your plan for operation accordingly, and observe strict technic of transplantation minutely and faultlessly with strict asepsis. II. Fix parts carefully in a slightly over-corrected position and apply plaster of paris retentive dressing carefully. III. Be careful in manipulation of the parts in after-treatment and the accurate re-application of the retentive apparatus to prevent tearing of the approximated tendons.

Case I. Anterior poleomyelitis, right leg involved. Child, C. C. Age nine, was first seen in the fall of 1907. The child at the age of three was suddenly seized by a

vomiting spell while at walk. She was unable to rise and had to be carried home, where for several days she had a high fever. Osteopathy was used for three years. Examination revealed that the right leg was very much atrophied, comparative measurements of thighs showed a difference of one and one-half inches and at the calf one inch, there was a shortening of the leg of one-half inch, the heel did not touch the ground on account of contracted tendo achillis. (Talipes Equinus.)

Treatment: Massage, active and resistive exercises with electricity were given as indicated by progress of treatment. Out door living and nutritious diet were prescribed and the patient by this treatment gradually improved. The difference of comparative measurements of thighs was reduced to one-half inch and that of the calves to one quarter inch. The Anderson tenotomy of the tendo achillis was done and the child is now able to bring the heel down and to walk more naturally.

Case II. Infantile paralysis (hemiplegia) involving the whole left side. Child S. S. Age 12, first saw her in September 1909. Examination showed marked assymetery of the face, head was bent to the right. The comparative measurements varied from 0.3 of an inch to two inches. Spine showed in the dorsal region lateral diviation of 0.8 of an inch. Left foot was in a talipes valgus position. Flexors and extensors of hand and forearm were involved, the extensors being more affected, so that the hand was in a habitual attitude of palmar flexion of a right angle with adduction of thumb. Contractile power of left hand was two pounds and that of right hand was thirty-four pounds. This patient had never been treated.

Treatment: Out door active exercises, nutritious food, cold sponge bath with vigorous rub down, localized resistive exercises to improve the undersized muscles and electricity were ordered. Special attention was given to the hand and foot. A special ankle and foot brace was worn and corrective exercises given with good results. The hand was carried in a over-corrected position, thumb

adducted in a light removable plaster cast for two months in order to relax the flexor tendons and prepare for shortening of extensor tendons by operation. The tendons of the extensor communis digiti were shortened and the adductor pollicis transversus and adductor pollicis obliquos were divided in order to move the thumb out of the way of the index finger. The result of the operation has been very satisfactory as far as appearance is concerned, the parts are still carried in the retentive splints which are removed three times a day when passive and active exercises are taken. The contractile power of the left hand has increased eight pounds.

Case III. Another poleomyelitis, involving left leg and foot. A boy six years old was brought to me by a masseur who had given the patient massage and exercise for two years. The treatment given up to this time had restored the action of the muscles and had stimulated growth of muscular fibres.

Examination showed that the patient was in a fairly good physical condition, but the boy was unable to flex his foot due to the paralyzed condition of the tibialis anticus muscle, the tendo achillis had not contracted, due to the persistant continuous exercises. I suggested operation, which was accepted.

Treatment: Applied plaster cast to the parts in a dorsal flexed position and kept the foot in this condition for two months, taking it out of the cast three times a day for the purpose of massage, active exercise and electricity. I then performed complete tendon transplantation of the extensor hallucis and proceeded with the after treatment as outlined heretofore with good results, the boy now walks naturally.

REPORT OF A CASE OF PARINAUD'S CONJUNCTIVITIS IN A NEGRO.

Wm. C. Kellogg, M.D., Augusta, Ga.

On September 28th, 1909, a negro boy seven years old was brought to my office with the following history:—

About three week's previous the left eye had begun to feel sandy and a small amount of thin discharge formed at night; enough to stick the lids together. Day by day the discharge had increased in amount until the eye had to be washed four or five times a day and it was only with difficulty that it could be opened at all.

There had been at no time any pain or discomfort other than that incident to the gumming from the discharge.

There was no history of tuberculosis in the family. The patient had had measles about two years before and though not strong or robust had never had any other sickness. The child had lived in town all his life.
He had never been thrown with horses or cattle to any extent. The examination showed a fairly well- nourished child apparently about the given age, seven years. The left eye was closed and exuding from the palpebral slit was considerable thin, yellowish, sticky discharge which had matted the lashes and rendered the opening of the eye somewhat difficult. There was some swelling of the lower lid especially toward the outer canthus, though the lid was not oedematous.

When everted, the lower lid presented three pea sized lumps which popped into view as the lid was turned. These were sessile and massed together near the outer canthus. From the region of these tumors the discharge apparently came, for as the conjunctiva was cleaned the flow could be seen oozing slowly from between the masses

which were distinct and could be isolated one by one. The conjunctiva of the lower lid was smooth throughout except over the tops of the masses and here it appeared rough and corrugated. There was apparently no departure from normal in the conjunctiva of the upper lid. The bulbar conjunctive was clear white, the cornea normal; reaction to light and accommodation and tension also normal.

There was, however, marked, though not complete ptosis of the affected eye, the sub-maxillary gland was about the size of an English walnut and the lymphatics in the left side of the neck were generally palpable.

The right eye was perfectly normal. There was no adenopathy of the right neck.

The epitrochlears were not palpable. The teeth were good and showed no signs of lues.

Smears made from the infected eye showed practically no bacteria of any sort.

The child was given a ten per cent. solution of argyrol to use every four hours and, as the discharge rapidly improved, about a week later was taken to the hospital and under general anesthesia the three masses were removed by scissors dissection. The bases of these masses were dense and seemed to lie deeply within the tissues of the lid.

Subsequent treatment consisted in frequent cleaning with boric acid and the use of ten per cent argyrol every three or four hours. The discharge persisted, though in lessening quantity for nearly three months, though the sub-maxillary enlargement disappeared in about two weeks' time after treatment was begun.

The ptosis lasted about one month.

This case was subsequently lost to view until April 11th, 1910, at that date I found the left eye well in every way. There were no palpable glands in the left neck. The lower lid conjunctiva showed faint scars only of where the tumor masses had once been and the induration of the tumor bases had cleared up.

An interesting feature of his present condition, however, is the beginning of a follicular conjunctivitis of the right lower lid.

It is regrettable that the excised masses were lost in the hospital, and that cultures were not made from the exudate. This is partly the fault of the writer who did not at that time recognize the disease as parinaud's conjunctivitis. His treatment was based on general principles only.

REPORT OF CASE OF GUNSHOT WOUND OF ABDOMEN WITH TWENTY-TWO PERFORATIONS OPERATION AND RECOVERY.

Geo. T. Horne, M.D. and Guy T. Bernard, M.D., Augusta, Ga.

Gunshot wounds of the abdomen are not of rare occurrence. The surgeon of the south is perhaps more interested in this class of cases now than ever before. Owing to the high mortality these cases have ever been regarded as most serious.

Until a few years ago very little success attended operations of this kind, but a better technique, more fully equipped hospitals, scientific nursing and a more wide-experience all have contributed to make results more satisfactory and to promise even better results in the near future.

We wish to present to your notice a report of a case occurring in our hospital practice that serves to illustrate the possibilities in this line of surgery.

Case of F. R., male, age eighteen years. Occupation, wrapping clerk in department store.

While visiting relatives at Guyton, Ga., near Savannah, this boy was accidentlly shot in the abdomen with a thirty-two calibre revolver, by another boy, his cousin.

The wound of entrance was about one and one-half inches below the umbilicus and about one inch to the left of the median line.

This occurred about 7 a. m., July 15th, 1909.

At time of occurrence medical assistance was summoned, and the physician finding no evidence of hemorrhage concluded that the ball had not penetrated the cavity, but later in the day advised immediate removal of the patient to his home in Augusta, Ga. Accordingly

he was brought up on the Central train, arriving at 7:55 p. m. On this trip he came in a day coach, sitting in an ordinary car seat the entire distance. On arrival in the city he walked from the train into hospital, a distance of about one hundred and fifty yards.

Upon examination we found abdomen wound as stated above, pulse 80, respiration 24, temperature 101 2-5, with evidence of internal hemorrhage. The abdomen was tense, face pallid and features contracted and pinched.

Immediate operation was decided upon and entered operating room at 8:40 p. m., fifteen hours after the injury.

On opening abdomen the cavity was found to contain a large quantity of blood clots and fecal matter, together with a number of water melon seeds. This was cleaned out and search for damaged tissue was begun. Tracing the intestine twenty-two perforations were found, located as follows:—Sixteen in the ileum, five in the descending colon and one in the rectum. In addition to this the visceral peritoneum was abraded in numerous places.

The perforations were of such size that they were closed without resection being necessary, the largest hole was the one in the rectum, this one being about one and one-half inches in diameter.

The bullet was located in the hollow of the sacrum, behind the posterior peritoneum, from which location it was removed. The cavity was cleansed with saline, and closed with drainage.

On removal to bed he was placed in exagerated Fowler's position and continuous rectal irrigation was begun. At this time there was pulse 134, respiration 30, axilla temperature 99.

The following morning his condition was fairly good, remaining so during the day, but the night succeeding at about one o'clock his condition became suddenly grave, restlessness and delirium setting in followed in a few hours by prostration, temperature 97, pulse 109 and very weak, respiration 36, skin cold and clammy.

The next morning a slight improvement was noticed and which continued. That afternoon his bowels moved freely, discharging constipated fecal matter and watermelon seed. From that time onward his recovery was gradual and uneventful.

He was discharged from the hospital August 4th and about a month later he resumed his regular occupation. At present, about eight months since operation he is entirely free from any ill effect of his injury, and in fact has changed his occupation from that of wrapping clerk in a department store to apprentice in a large iron works and foundry in this city.

We wish to call attention to one or two rather unusual and interesting features in connection with this case.

First: The lack of any symptoms indicating the amount of damage sustained by the abdominal viscera. In this connection it is fitting to emphasize the importance of a most thorough examination of all wounds which may be penetrating; remembering that though the clinical evidence may be almost nil extensive destruction of abdominal tissue can have taken place.

Secondly: The concensus of opinion in this class of cases is, that the best prognosis is afforded by early operation. It will be noted, however, in this case that there was an interval of about fifteen hours, during which time the patient was subjected to various disadvantages, and among them the hardships of a one hundred mile journey in an ordinary day coach.

Thirdly: In view of the fact that there was a great out-pouring of intestinal contents into the cavity, there was a relatively small amount of toxaemia. We cannot account for this unless it was due to the position he unconsciously assumed while so many hours on the train.

If this be true it is a very practical illustration of the value of Fowler's position in all septic conditions of the abdomen.

CONSTITUTION AND BY-LAWS
OF THE
Medical Association of Georgia

CONSTITUTION.

ARTICLE I.—NAME OF THE ASSOCIATION.

The name and title of this organization shall be the Medical Association of Georgia.

ARTICLE II.—PURPOSES OF THE ASSOCIATION

The purpose of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of Georgia; to extend medical knowledge and advance medical science; to elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of State medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III.—COMPONENT SOCIETIES.

Component Societies shall consist of those county medical societies which hold charters from this Association.

ARTICLE IV.—COMPOSITION OF THE ASSOCIATION.

Section 1. This Association shall consist of members and delegates.

Sec. 2. Members. The members of this Association shall be the members of the component county medical societies, to which only white physicians should be eligible.

Sec. 3. Delegates: Delegates shall be those members who are elected in accordance with this constitution and by-laws to represent their respective component societies in the House of Delegates of this Association.

ARTICLE V.—HOUSE OF DELEGATES.

The House of Delegates shall be the business body of the Association, and shall consist of (1) Delegates elected by the component county societies; (2) the Councilors, and (3) ex officio, the President and Secretary of this Association.

ARTICLE VI.—COUNCIL.

The Council shall consist of the Councilors, and the President and Secretary, ex officia. Besides its duties mentioned in the bylaws, it shall constitute the Finance Committee of the House of Delegates. Five Councilors shall constitute a quorum.

ARTICLE VII.—SECTIONS AND DISTRICT SOCIETIES

The House of Delegates may provide for a division of the scientific work of the Association into appropriate sections, and for the organization of such Councilor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component societies.

ARTICLE VIII.—SESSIONS AND MEETINGS.

The annual meetings shall take place on the third Wednesday in April, and at such place as shall be designated by the Association.

ARTICLE IX.—OFFICERS.

Section 1. The officers of this Association shall be a President, two Vice-Presidents, a Secretary-Treasurer and eleven councilors, one from each congressional district.

Sec. 2. The officers, except the Secretary-Treasurer and councils, shall be elected annually. The terms of the councilors shall be for three years, those first elected serving one, two and three years, as may be arranged, viz.: the councilors for the first, second, third and fourth districts for three years; those for the fifth, six, seventh and eighth for two years; those for the ninth, tenth and eleventh for one year. The Secretary-Treasurer shall be elected for a term of five years. All these officers shall serve until their successors are elected and installed.

Sec. 3. The officers of this Association shall be elected by the Association by ballot, and without nomination, at 5 o'clock on the second day of the annual session, and no person shall be elected to any such office who is not in attendance on that annual session, and who has not been a member of the Association for the past two years. If there is no election on the first ballot, the three names receiving the highest number of ballots shall be voted on, the other names being dropped. If there is no election on second ballot, the two names receiving the highest number of ballots shall be voted on until election occurs. Delegates to the American Medical Association shall be elected at same time and in same manner.

ARTICLE X.—FUNDS AND EXPENSES.

Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall not exceed the sum of $3.00 per capita

per annum. Funds may be appropriated by the House of Delegates to defray the expenses of the Association, for publications, and for such other purposes as will promote the welfare of the profession. All resolutions appropriating funds must be referred to the finance committee before action is taken thereon.

ARTICLE XI.—RATIFICATION.

The House of Delegates shall submit all questions before it to the Association for ratification.

ARTICLE XII.—THE SEAL.

The Association shall have a common seal, with power to break, change or renew the same at pleasure.

ARTICLE XIII.—AMENDMENTS.

Any amendment that may be offered to the Constitution shall lie over until the next annual meeting; and for its adoption at such meeting shall require a two-thirds vote of all present and voting.

BY-LAWS

CHAPTER I.—MEMBERSHIP.

Section 1. The name of a physician on the properly certified roster of members of a component society, which has paid its annual assessment, shall be **prima facie** evidence of membership in this Association.

Sec. 2. Any person who is under sentence of suspension or expulsion from a component society or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this

Association, nor shall he be permitted to take part in any of its proceedings until he has been relieved of such disability.

Sec. 3. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified by reference to the roster of his society, he shall receive a badge which shall be evidence of his right to all the priviliges of membership at that session. No member shall take part in any of the procedings of an annual session until he has complied with the provisions of this section.

CHARTER II.—GENERAL MEETINGS.

Section 1. All registered members may attend and participate in the proceedings and discussions of the general meetings. The general meetings shall be presided over by the President, or by one of the Vice-Presidents.

CHARTER III.—HOUSE OF DELEGATES.

Section 1. The House of Delegates shall meet at 9:00 a. m. on the first day of the annual session. It may adjourn from time to time as may be necessary to complete its business; provided, that its hours shall conflict as little as possible with the general meetings. The order of business shall be arranged as a separate section of the program.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every fifty members, and one for each fraction thereof, but each component society which has made its annual report and paid its assessment as provided in this constitution and by-laws shall be entitled to one delegate. Should the regular delegate from any county not be present at the meeting, the President shall appoint a substitute from that county to act.

Sec. 3. Twenty delegates shall constitute a quorum.

Sec. 4. It shall, through its officers, council and otherwise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each annual session a stepping-stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent on the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the state, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall continue these efforts until every physician in every county of the State who can be made reputable has been brought under medical society influence.

Sec. 7. It shall encourage post-graduate and research work, as well as home study, and shall endeavor to have the results utilized and intelligently discussed in the county societies.

Sec. 8. It shall divide the State into councilor districts, one for each congressional district, and, when the best interest of the Association and profession will be promoted thereby, organize in each a district medical society, and all members of component county societies and no others shall be members in such district societies.

Sec. 9. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates. Such committees shall report to the House of Delegates

and may be present and participate in the debate thereon.

CHAPTER IV.—DUTIES OF OFFICERS.

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committes not otherwise provided for, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and as far as practicable, shall visit, by appointment, the various sections of the State and assist the councilors in building up the county societies, and in making their work more practical and useful.

Sec. 2. The Vice-President shall assist the President in the discharge of his duties. In the event of the President's death, resignation, or removal, the Vice-Presidents, in their order, shall succeed him.

Sec. 3. The Secretary-Treasurer shall give bond in the sum of $1,000. He shall demand and receive all funds due the Association, together with the bequests and donations. He shall pay money out of the treasury only on a written order of the President.

Sec. 4. The Secretary-Treasury shall attend the general meetings of the Association and the meetings of the House of Delegates, and shall keep minutes of their respective proceedings in separate record books. He shall be ex officio Secretary of the Council. He shall be custodian of all record books and papers belonging to the Association. He shall provide for the registration of the members and delegates at the annual session. He shall, with the co-operation of the secretaries of the component societies, keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and, on request, shall transmit a copy of this list to the American Medical Asso-

ciation. He shall aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Association. He shall conduct the official correspondence, notifying members of meetings, officers of their election and committees of their appointment and duties. He shall employ such assistants as may be ordered by the House of Delegates with the approval of the Association, and shall make an annual report to the Association. He shall supply each component society with the necessary blanks for making their annual reports; shall keep an account with the component societies, charging against each society its assessment and collect the same. Acting with the committee on scientific work, he shall prepare and issue all programs. The amount of his salary shall be fixed by the Association.

CHAPTER V.—COUNCIL.

Section 1. The Council shall meet on the day preceding the annual session and daily during the session,, and at such other times as necessity may require, subject to the approval of the President. It shall meet on the last day of the annual session of the Association to organize and outline work for the ensuing year. It shall elect a chairman and clerk, who, in the absence of the Secretary of the Association, shall keep a record of its proceedings. It shall, through its chairman, make an annual report to the House of Delegates.

Sec. 2. Each Councilor shall be organizer and peacemaker for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his work, and of the condition of the profession of each county in his district at the annual session of the House of Delegates.

The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates on a proper itemized statement, but this shall not be construed to include his expense in attending the annual session of the Association.

Sec. 3. The Council shall be the board of censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the general meeting shall be referred to the council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a component society, on which an appeal is taken from the decision of an individual Councilor, and its decision in all such matters shall be final, when ratified by the Association.

Sec. 4. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies, to be suitably designated so as to distinguish them from district societies, and these societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association. All money received by the Council and its agents, resulting from the discharge of the duties assigned them, must be paid to the Secretary-Treasurer of the Association. As the finance committee it shall annually audit the accounts of the Secretary-Treasurer and duties assigned them, must be paid to the Secretary-Treasurer other agents of this Association and present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Association during the year, and the

amount of all other property belonging to the Association under its control, with such suggestions as it may deem necessary. In the event of a vacancy in the office of the Secretary-Treasurer, the Council shall fill the vacancy until the next annual election.

Sec. 6. Any member of the Council who fails to attend two regular successive sessions of the Council or whose district does not show evidences of the performances of his duties during the year, unless he renders an acceptable excuse to the Council, his position shall be declared vacant by the President and his successor appointed by the President.

Sec. 7.—In the absence of a Councilor the President is empowered to appoint a representative from the District as acting Councilor.

Sec. 8. Each Councilor shall render at every session a written report of each county in his district.

CHAPTER VI.—COMMITTEES.

Section 1. The standing committees shall be as follows:

A committee on Scientific Work.

A committee on Public Policy and Legislation.

A committee on Arrangements, and such other committees as may be necessary.

Sec. 2. The Committee on Scientific Work shall consist of three members, of which the Secretary-Treasurer shall be one, and shall determine the character and scope of the scientific procedings of the Association for each session. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Association in securing and

enforcing legislation in the interest of public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall strive to organize professional influence so as to promote the general good of the community in local, state and national affairs and elections.

Sec. 4. The Committee on rrangements shall be appointed by the component society in which the annual session is to be held. It shall provide suitable accommodations for the meeting places of the Association and of the House of Delegates, and of their respective committees, and shall have general charge of all arrangements. Its chairman shall report an outline of the arrangements to the Secretary-Treasurer for publication in the program, and shall make additional announcements during the session as occasion may require.

CHAPTER VII.—COUNTY SOCIETIES.

Section 1. All county societies now in affiliation with this Association, or those which may hereafter be organized in the state, which have adopted principles of organization not in conflict with this constitution and by-laws, shall, on application, receive a charter from and become a component part of this Association.

Sec. 2. As rapidly as can be done after the adoption of this constitution and by-laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only on approval of the Council, and shall be signed by the President and Secretary of this Association. The Association shall have authority to revoke the charter of any component society whose actions are in conflict with the letter or spirit of this constitution and by-laws.

Sec. 4. Only one component medical society shall be chartered in any county.

Sec. 5. Each county society shall judge of the qualification of its own members, but, as such societies are the only portals to this Association, every reputable and legally registered white physician who does not practice or claim to practice, nor lend his support to any exclusive system of medicine, shall be eligible to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Sec. 6. Any phycician who may feel aggrieved by the action if the society of his county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, and its decision shall be final, when ratified by the Association.

Sec. 7. In hearing appeals the Council may admit oral or written evidence, as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a board and as individual Councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society moves to another county in this State, his name, on request, shall be transferred wihout cost to the roster of the county society into whose jurisdiction he moves.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend on permission of the component society in whose jurisdiction he resides.

Sec. 10. Each component society shall have general direction of the affairs of the profession in its county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. At some meeting in advance of the annual session of this Association, each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association, in the proportion of one delegate to each fifty members, or fraction thereof, and the Secretary of the society shall send a list of such delegates to the Secretary of this Association at least ten days before the annual session.

Sec. 12. The Secretary of each component society shall keep a roster of its members, and of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. In keeping such roster the Secretary shall note any changes in the personeel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 13. The Secretary of each component society shall forward its assessment, together with its roster of officers and members, list of delegates, and list of non-affiliated physicians of the county, to the Secretary of this Association each year thirty days before the annual session.

Sec. 14. Any county society which fails to pay its assessment, or make the report required, on or before April 1 of each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association, or of the House of Delegates until such requirement has been met.

CHAPTER VIII.—MISCELLANEOUS.

Section 1. No address or paper before the Association shall occupy more than fifteen minutes in its delivery; and no member shall speak longer than five minutes, nor

more than once on any subject, except by unanimous consent.

Sec. 2. All papers read before the Association, or any of the sections, shall become its property. Each paper shall de deposited with the Secretary when read.

Sec. 3. The deliberations of this Association shall be governed by parlimentary usage as contained in Robert's Rules of Order, when not in conflict with this Constitution and By-Laws.

CHAPTER IX.

The present membership of the Association shall constitute the nucleus in their respective counties for the organization of county societies. They shall have a preliminary organization and invite all reputable white physicians in their county to join them in forming a permanent organization. At the meeting for permanent organization they shall elect officers and adopt a constitution and by-laws, the same not to conflict with that of the State Association. Those counties not now having membership in the State Association may call a meeting of the regular white physicians, organize a society and secure a charter from the Secretary of the State Association.

CHAPTER X.—AMENDMENTS.

These by-laws may be amended at any annual session by a majority vote of the Association, after the amendment has laid on the table for one day.

ROLL OF MEMBERS

OF THE

Medical Association of Georgia

1910

Abbreviations—P., President; V.-P., Vice-President; S., Secretary; C. S., Corresponding Secretary; T., Treasurer; O., Orator; C., Censor.

NAME	Post Office	County Society	Admitted
I. E. Aaron	Lyons	Toombs	1904
T. E Abercrombie	Dallas	Paulding	1909
R. E. Adair	Cartersville	Bartow	1897
E. G. Adams	Greensboro	Greene	1909
W. E. Adams	Greensboro	Greene	1909
F. L. Adams	Elberton, R. F. D. 6	Elbert	1899
H. P. Adams	Savannah	Georgia	1906
I. H. Adams	Macon	Bibb	1906
W. H. Adams	Savannah	Georgia	1906
W. A. Aderhold	Clem	Carroll	1909
B. F. Aiken	Jenkinsburg	Butts	1906
G. L. Alexander	Forsyth	Monroe	1894
B. W. Allen	Columbus	Muscogee	1906
H. D. Allen	Milledgeville	Baldwin	1891
Jos. E. Allen	Augusta	Richmond	1906
L. C. Allen	Hoschton	Jackson	1906
D. C. Alsobrook	Rock Spring	Walker	1908
J. S. Alsobrook	Ringgold	Walker	1907
J. E. Amason	Washington, R. F. D.	Wilkes	1906
L. Amster	Atlanta	Fulton	1894
Harry Ainsworth	Thomasville	Thomas	1902
C. L. Anderson	Barnesville	Pike	1908
J. M. Anderson	Barnesville	Pike	1900
N. Z. Anderson	Covington	Newton	1894
C. R. Andrews	Atlanta	Fulton	1905
Robin Adair	Atlanta	Fulton	1910
G. O. Allen	Fargo	Lowndes	1910
J. C. Anderson	Barwick	Thomas	1910
J. M. Anderson	Columbus	Muscogee	1910
T. H. Andrews	Cuthbert	Randolph	1906
W. S. Ansley	Decatur	DeKalb	1905

NAME	Post Office	County Society	Admitted
E. R. Anthony (V.-P.)	Griffin	Spalding	1887
J. C. Asbury	Greenesboro	Greene	1909
W. T. Asher	Atlanta	Fulton	1901
P. H. Askew	Nashville	Berrien	1906
J. P. Atkinson	Milledgeville	Baldwin	1906
Arch Avary	Atlanta	Fulton	1887
J. C. Avary	Atlanta	Fulton	1889
W. H. Aycock	Molina	Pike	1910
C. L. Ayers	Toccoa	Stephens	1905
A. A. Bagwell	Ingleside	DeKalb	1906
J. D. Bailey	Summertown	Emanuel	1910
E. M. Bailey	Acworth	Cobb	1899
T. S. Bailey	Newnan	Coweta	1904
Jas. B. Baird, Jr.	Atlanta	Fulton	1908
Jas. B. Baird (S.O.P)	Atlanta	Fulton	1872
L. A. Baker	Ty Ty	Tift	1909
J. L. Baker	Carleton	Madison	1910
J. O. Baker	Savannah	Georgia	1906
E. G. Ballenger	Atlanta	Fulton	1908
J. P. Ballenger	Amurchee, R. F. D.	Floyd	1906
F. G. Barfield	Cuthbert	Randolph	1904
A. A. Barge	Newnan	Coweta	1903
H. M. Barker	Flintstone	Walker	1909
S. T. Barnett	Atlanta	Fulton	1909
W. R. Barnett	Resaca	Gordon	1908
V. H. Bassett	Savannah	Georgia	1909
C. L. Baskin	Temple	Carroll	1902
R. B. Barron (V.P.O.)	Macon	Bibb	1884
Craig Barrow	Savannah	Georgia	1903
W. W. Battey, Sr.	Augusta	Richmond	1906
W. W. Battey, Jr.	Augusta	Richmond	1907
R. I. Battle	Cartersville, R. F. D.	Bartow	1907
G W. Battle	Cassville	Bartow	1906
G. V. Baxley	Grovetown	Richmond	1906
J. J. Beaton	Waycross	Ware	1910
J R. Beall	Blythe	Richmond	1906
J. L. Bell	Swainsboro	Emanuel	1909
J. C. Beauchamp	Williamson	Pike	1906
L. J. Belt	Millen	Jenkins	1888
S. C. Benedict (O.C.P.)	Athens	Clarke	1883
J. C. Bennett	Jefferson	Jackson	1905
C. F. Benson	Atlanta	Fulton	1897
Marion T. Benson	Atlanta	Fulton	1900
W. W. Binion	Benevolence	Randolph	1893

NAME	Post Office	County Society	Admitted
G. T. Bernard	Augusta	Richmond	1910
T. F. Bivings	Vienna, S. Ga.	As Dooley Crisp	1897
A. H. Black	Thomaston	Upson	1909
M. H. Blanceford	Columbus	Muscogee	1909
C. A. Blanchard	Augusta	Richmond	1906
T. W. Bivins	Atlanta	Fulton	1910
A. L. Blalack	Macon	Bibb	1910
J. C. Bloomfield (V.-P.)	Athens	Clarke	1890
E. Bates Block	Atlanta	Fulton	1902
Roy Blosser	Atlanta	Fulton	1909
H. Boatwright	Carrollton	Carroll	1906
Frank K. Boland	Atlanta	Fulton	1906
B. F. Bond	Cannon	Franklin	1909
E. P. Bomar	Lyons	Toombs	1910
Bonner	Lavonia	Franklin	1909
Dennis Bordus	Red Bud	Gordon	1910
W. H. Born	McRae	Ocmulgee	1902
J. P. Bowdon	Adairsville	Bartow	1905
J. W. Bowie	Summit	Emanuel	1907
Chas. E. Boynton	Atlanta	Fulton	1900
D. M. Bradley	Waycross	Ware	1909
Mrs. Frances Bradley	Atlanta	Fulton	1900
T E. Bradley	Cordele	Dooley	1910
J. R. B. Branch	Macon	Bibb	1910
C. P. Brannen	Savannah	Georgia	1900
J. N. Brawner	Atlanta	Fulton	1909
Geo. P. Brice	Flowery Branch, R. F. D. 1	Forsyth	1906
T. J. Bridges	Sylvester	Worth	1906
Wm. R. Brigham	Dublin	Laurens	1900
Frank Bright	Dublin	Laurens	1906
G. O. Brinkley	Savannah	Georgia	1906
C. O. Brock	Jefferson	Jackson	1910
F. M. Brock	Carrollton, R. F. D. 8	Carroll	1906
J. C. Brock	Carrollton	Carroll	1907
W. B. Brock	Tallapoosa	Haralson	1909
Harry Brooks	Augusta	Richmond	1906
A. M. Brown	Jesup	Wayne	1910
E. C. Brown	Hawkinsville	Ocmulgee	1905
Geo. Brown	Atlanta	Fulton	1899
J. L. Brown	Camilla	Mitchell	1906
Jas. Brown	Martin, R. F. D.	Franklin	1909
L. I. Brown	Macon	Bibb	1910
L. R. Brown	Sharon	Taliaferro	1909
W. T. Brown	Atlanta	Fulton	1905

NAME	Post Office	County Society	Admitted
F. M. Bruce	Pineview, S. Ga. Ass'n	Dooley, Crisp	1908
W. F. Brunner	Savannah	Georgia	1906
J. A. Bryan	Pendergrass	Jackson	1898
C. I. Bryans	Augusta	Richmond	1906
L. R. Bryson	Gainesville, R. F. D. 1	Hall	1907
C R. Buchanan	Springvale	Randolph	1909
W. L. Bullard	Columbus	Muscogee	1900
J. A. Burch	Chester	Ocmulgee	1910
F M. Burkhalter	Nashville	Berrien	1910
R E. L. Burford	Brunswick	Glynn	1908
G. W. Burnett	Whitesburg	Carroll	1906
Gordon Burns	Douglas	Coffee	1910
J. K. Burns	Clarkesville	Habersham	1897
A. M. Burt	Macon	Bibb	1896
C. W. Burtz	Acworth	Cobb	1909
C. F. Bush	Carnesville	Franklin	1909
G L. Bush	Atlanta	Fulton	1910
W. T. Butler	Unadilla	So. Ga.	1910
J. Lee Byron	Jackson	Butts	1902
A. T. Calhoun	Cartersville	Bartow	1894
F. P. Calhoun	Atlanta	Fulton	1908
A. W. Calhoun V.-P. C.P.	Atlanta	Fulton	1874
W. W. Calhoun	Bluffton	Tri	1910
J. B. Camp	Carollton	Carroll	1906
E W. Campbell	Macon	Bibb	1910
M. G. Campbell	Atlanta	Fulton	1906
W. E. Campbell	Atlanta	Fulton	1900
G. T. Canning	Athens	Clarke	1908
T. W. Cansey	Brunswick	Glynn	1910
W. A. Carlton	Athens	Clarke	1907
H. L. Carroll	Babcock	Tri	1910
W. L. Carroll	Macon	Bibb	1910
M. F. Carson, (V.-P.)	Griffin	Spalding	1897
N. T. Carswell	Macon	Bibb	1906
E. W. Carter	Prattsburg	Muscogee	1909
W. N. Carter	Columbus	Muscogee	1909
J. R. M. Carter	Carrollton	Carroll	1906
J. N. Carter	Savannah	Georgia	1905
L. A. Carter	Nashville	Berrien	1905
E. C. Cartledge	Atlanta	Fulton	1905
F. L. Casby	Columbus	Muscogee	1910
R. A. Chambers	Columbus	Muscogee	1910
C. M. Chamblee	Adairsville	Bartow	1906
W. L. Champion	Atlanta	Fulton	1894

NAME	Post Office	County Society	Admitted
J. H. Chandler	Swainsboro	Emanuel	1907
B. B. Chandler	Danielsville	Madison	1910
W. V. Chandler	Baldwin	Habersham	1910
W. A. Chapman	Cedartown	Polk	1905
R. J. Chappell	Dudley	Laurens	1904
T. J. Charlton	Savannah	Georgia	1903
J. D. Chason	Bainbridge	Decatur	1895
Gordon Chason	Bainbridge	Decatur	1902
J. B. Chastain	Blue Ridge	Fannin	1906
J. N. Cheney	Silver Creek	Floyd	1905
J. L. Cheshire	Kestler	Tri	1909
L. M. Childs	Atlanta	Fulton	1909
J. F. Chisholm	Savannah	Georgia	1903
A. F. Christopher	Mineral Bluff	Fannin	1909
F. L. Cato,	Eatonton	Putnam	1906
R. E. Cato,	Americus	Sumpter	1893
J. W. Chamberlin	Americus	Sumpter	1893
J. B. Clark	Eastman	Ocmulgee	1910
L. B. Clark	Atlanta	Fulton	1906
M. A. Clark, (V.-P., P.)	Macon	Bibb	1893
P. S. Clark	Darien	Georgia	1899
T. S. Clay	Savannah	Georgia	1903
A. B. Cleborne	Savannah	Georgia	1908
H W. Clements	Lenox	Berrien	1908
J R. Clements	Pelham	Mitchell	1906
B. M. H. Cline	Milledgeville	Baldwin	1910
F. W. Coile	Wintersville	Clarke	1897
J. T. Colvin	Jesup	Wayne	1910
K. R. Collins	Atlanta	Fulton	1910
H. C. Cook	Bremen	Haralson	1909
A. B. Cole	Tallapoosa	Haralson	1909
J. E. Cole	Middleton	Elbert	1901
E. T. Coleman	Graymont	Emanuel	1905
T. D. Coleman, (P.)	Augusta	Richmond	1891
T. J. Collier	Atlanta	Fulton	1905
T. J. Collier	Griffin	Spalding	1899
V. C. Cook	Atlanta	Fulton	1909
W. L. Cooke	Columbus	Muscogee	1907
J. J. Cooper	Cedartown	Polk	1906
R. L. Cone	Groveland	Bullock	1907
W. B. Conway	Athens	Clarke	1906
H. W. Copeland	Jackson	Butts	1906
W. W. Cornogg	Lavonia	Franklin	1909
E. R. Corson	Savannah	Georgia	1895

NAME	Post Office	County Society	Admitted
J. H. Couch	Moreland	Coweta	1906
G. D. Couch	Atlanta	Fulton	1910
M. X. Corbin	Savannah	Georgia	1898
J. W. Cowart	Walden	Bibb	1904
R. P. Cox	Rome	Floyd	1891
C. W. Crane	Augusta	Richmond	1906
C. B. Crawford	Blue Ridge	Fannin	1906
J. H. Crawford	Atlanta	Fulton	1906
W. B. Crawford	Savannah	Georgia	1903
J. H. Crawford	Toccoa	Stephens	1910
J. M. Crawford	Atlanta	Fulton	1909
A. L. Crittendon	Shellman	Randolph	1906
J. G. Croley	Milledgeville	Baldwin	1910
J. M. Crook	Columbus	Muscogee	1903
Martin Crook	Columbus	Muscogee	1906
J. D. Cromer	Atlanta	Fulton	1909
E. S. Cross	Savannah	Georgia	1909
M. M. Crowder	Kensington, R. F. D.	Walker	1906
W. A. Crowe	Atlanta	Fulton	1892
J. A. Crowther	Savannah	Georgia	1902
J. H. Crozier	Cedar Springs	Tri	1889
E. C. Crummey	Jesup	Wayne	1909
W. F. Culpepper	Senoia	Coweta	1892
F. M. Cunningham	Macon	Bibb	1909
M. L. Currie	Vidalia	Toombs	1890
J. W. Currie	Rome	Floyd	1905
D. Q. Dallas	Pavo	Thomas	1905
R. R. Daly	Atlanta	Fulton	1907
W. R. Dancy	Savannah	Georgia	1906
B. Daniel	Cordele	So. Ga.	1907
B. C. Daniel	Hogansville	Troup	1910
J. S. Daniel	Danielsville	Madison	1910
J. W. Daniel	Savannah	Georgia	1898
O. Daniel	Tifton	Tift	1906
J. I. Darby	Columbus	Muscogee	1893
J. M. Daves	Blue Ridge	Fannin	1902
A. A. Davidson	Augusta	Richmond	1896
F. C. Davis (P.)	Atlanta	Fulton	1894
Jeff Davis	Toccoa	Stephens	1893
J. P. Davis	Riddleville	Washington	1903
T. B. Davis	Newnan	Coweta	1892
T. C. Davison	Atlanta	Fulton	1908
D. L. Deal	Stilson	Bullock	1909
M. P. Deadwiler	Maysville	Banks	1904

NAME	Post Office	County Society	Admitted
A. J. Deas	Augusta	Richmond	1904
Wm. DeLay	Rome	Floyd	1906
J. H. Dennard	Atlanta	Fulton	1910
J. F. Denton	Atlanta	Fulton	1907
H. C. Derrick	Oglethorpe	Macon	1905
W. L. DesPortes	Columbus	Muscogee	1899
H. P. Derry	Macon	Bibb	1903
C. A. Dexter	Columbus	Muscogee	1905
W. J. Dickson	Ashburn	Turner	1908
S. H. Dillard	Athens	Clarke	1910
J. A. Dillashaw	Bowman	Elbert	1906
H. R. Donaldson	Atlanta	Fulton	1905
J. N. Dorminy	Seville, So. Ga. Ass'n	Dooley-Crisp	1901
R. T. Dorsey	Atlanta	Fulton	1909
W. H. Doughty, Jr. (V.-P.)	Augusta	Richmond	1880
Jas. H. Downey	Gainesville	Hall	1904
G. W. Drawdy	Jesup	Wayne	1909
N. B. Drewry	McDonough	Spalding	1892
T. E. Drewry	Griffin	Spalding	1892
T. L. Driscoll	Cartersville	Bartow	1910
P. Y. Duckett	Cornelia	Habersham	1909
D. E. Dudley	Savannah	Georgia	1908
J. W. Duncan	Atlanta	Fulton	1887
M. F. Dunn	Savannah	Georgia	1903
J. H. Duggan	Covington	Laurens	1910
J. W. DuPree	Athens	Clarke	1908
J. W. DuGiud	Macon	Bibb	1910
J. G. Earnest	Atlanta	Fulton	1882
W. N. Edenfield	Pinehurst So. Ga. Ass'n	Dooley-Crisp	1907
John Edge	Toccoa	Stephens	1904
L. P. Eberhardt	Elberton	Elbert	1909
W. E. Edwards	Cordele So. Ga. Ass'n	Dooley-Crisp	1897
D. G. Elder	Chickamauga	Walker	1906
E. B. Elder	Macon	Bibb	1900
J. G. Elder	Jefferson	Jackson	1906
J. T. Elder	Farmington, R. F. D.	Oconee	
S. A. Elder	High Shoals	Oconee	1906
W. S. Elkin	Atlanta	Fulton	1882
J. N. Ellis	Atlanta	Fulton	1899
J. O. Elrod	Forsyth	Monroe	1904
W. L. Embry	Villa Rica	Carroll	1909
W. B. Emery	Atlanta	Fulton	1900
H. L. Erwin	Dalton	Gordon	1907
J. M. Erwin	Calhoun	Gordon	1906

NAME	Post Office	County Society	Admitted
S. G. Ethridge	Sparks	Berrien	1906
I. C. Evans	Columbus	Muscogee	1907
J. H. Evans	Sandersville	Washington	1897
H. J. Eve	Augusta	Richmond	1901
W. S. Everett	Almon	Newton	1906
H. L. Farmer	Savannah	Georgia	1897
C. H. Ferguson	Thomasville	Thomas	1906
E. F. Fincher	East Atlanta	DeKalb	1906
L. C. Fisher	Atlanta	Fulton	1900
B. W. Fite	Resaca	Gordon	1899
P. W. Fitts	Greenville	Meriwether	1897
W. L. Fitts	Carrollton	Carroll	1890
A. Fleming	Waycross	Ware	1906
W. E. Farley	Hamilton	Harris	1910
W. B. Fierney	Pelham	Mitchell	1910
T. D. Fletcher	Jenkinsburg	Butts	1909
A. P. Flowers	Atlanta	Fulton	1909
F. F. Floyd	Statesboro	Bullock	1907
W. B. Floyd	Plainville	Gordon	1906
F. C. Folks	Waycross	Ware	1906
G. P. Folks	Waycross	Ware	1909
A. G. Fort	Lumpkin	Stewart	1905
A. L. Fowler	Atlanta	Fulton	1900
R. L. Fox	Brunswick	Glynn	1909
Rufus Franklin	Graymont	Emanuel	1909
A. L. Franklin	Rome	Floyd	1909
V. E. Franklin	Graymont	Emanuel	1907
R. E. Foster	Carrollton	Carroll	1910
D. B. Frederick	Marshallville	Macon	1908
J. M. Freeman	Lavonia	Franklin	1909
H. M. Freeman	Toccoa	Stephens	1905
N. A. Frier	Bickley	Ware	1906
H. M. Fullilove	Athens	Clarke	1900
W. L. Funkhouser	Rome	Floyd	1905
Lewis M. Gaines	Atlanta	Fulton	1909
J. T. Gamage	Pineview So. Ga. Ass'n	Dooley-Crisp	1903
T. R. Garlington	Rome	Floyd	1893
J. L. Garrard	Rome	Floyd	1908
J. Garrard	Milledgeville	Baldwin	1910
W. T. Gautier	Columbus	Muscogee	1906
John Gerdine	Athens	Clarke	1910
N. G. Gerwinner	Macon, J. H. Gheesling	Bibb	1909
J. H. Gheeslin	Greensboro	Greene	1909
B. H. Gibson	Savannah	Georgia	1910

NAME	Post Office	County Society	Admitted
E. T. Gibbs	Gainesville	Hall	1910
W. D. Gholston	Danielsville	Madison	1902
O. C. Gibson	Macon	Bibb	1906
J. T. Gibson	Portersdale	Newton	1906
C. C. Giddens	Adel	Berrien	1908
C. G. Giddings	Atlanta	Fulton	1902
W. L. Gilbert	Atlanta	Fulton	1905
R. B. Gilbert	Greenville	Meriweather	1906
W. Y. Gilliam	Blue Ridge	Fannin	1909
R. P. Glenn	Columbus	Muscogee	1907
G. W. Good	Cedartown	Polk	1910
S. Gibson	Thomson	McDuffie	1910
W. H. Goodrich	Augusta	Richmond	1900
H. J. Goodwin	Roopville	Carroll	1905
R. C. Goolsby	Forsyth	Monroe	1891
I. H. Goss	Athens	Clarke	1877
N. C. Goss	Cartecay	Fannin	1906
G. P. Gostin	Macon	Bibb	1902
R. E. Graham	Nunez	Emanuel	1907
St. J. B. Graham	Ellijay	Fannin	1909
N. L. Grant	Stinson	Meriweather	1910
J. R. Graves	Zezulon	Pike	1906
G. T. Gray	Lyons	Toombs	1908
R. M. Gray	Everett Springs	Floyd	1906
L. A. Graybill	Oconee	Washington	1906
A. B. Green	Cartersville	Bartow	1906
E. M. Green	Milledgeville	Baldwin	1903
S. H. Green	Atlanta	Fulton	1892
W. J. Green	Athens	Clarke	1910
Chas. A. Greer	Oglethorpe	Macon	1905
R. L. Grier	Lumpkin	Stewart	1908
J. C. Griffies	Carrollton, R. F. D. 9	Carroll	1905
A. Griffin	Valdosta	Lowndes	1910
W. C. Griffin	Cartersville	Bartow	1897
E. W. Griffin	Springfield	Georgia	1909
N. J. Grizzard	Atlanta	Fulton	1907
Chas. Haggard	Mableton	Cobb	1909
B. W. Hall	Bowman	Elbert	1906
F. H. Hall	Amurchee	Floyd	1910
H. M. Hall	Cedartown	Polk	1907
J. R. Hall	Carnesville	Franklin	1909
Thos. H. Hall	Macon	Bibb	1906
T. H. Hall	Dublin	Laurens	1910

NAME	Post Office	County Society	Admitted
M. H. Hallum	Carrollton	Carroll	1906
J. H. Hammond	LaFayette	Walker	1898
L. P. Hammond	Rome	Floyd	1906
J. D. Hamrick	Carrollton	Carroll	1899
H. H. Hampton	Colbert	Madison	1910
T. H. Hancock	Atlanta	Fulton	1898
J. H. Hand	Blakely	Tri-County	1907
R. M. Harbin (V.-P.)	Rome	Floyd	1894
W. P. Harbin	Rome	Floyd	1905
J. E. Hanna	Dallas	Paulding	1907
O. N. Harden	Homer, Route 1	Banks	1906
W. P. Harden	Commerce, R. F. D. 11	Banks	1903
L. S. Hardin	Atlanta	Fulton	1902
L. G. Hardman (V.-P.)	Commerce	Jackson	1877
W. B. Hardman	Commerce	Jackson	1892
G. L. Harmon	Savannah	Georgia	1909
Aubrey Harper	Fitzgerald	Irwin, Ben Hill	1910
J. W. Harper	Jackson	Butts	1906
T. F. Harper	Weston	Stewart	1906
J. P. Harrell	Athens	Clarke	1907
J. C. Harris	Warnick	So. Ga. Ass'n	1910
H. S. Hargrove	Pelham	Mitchell	1910
H. F. Harris	Atlanta	Fulton	1902
S. T. Harris	Valdosta	Lowndes	1910
R. V. Harris	Savannah	Georgia	1908
D. C. Harrison	Harrison	Washington	1906
W. H. Harrison, Jr.	Augusta	Richmond	1886
C. C. Harrold	Macon	Bibb	1905
V. O. Harvard	Arabi	Dooly-Crisp	1900
J. E. Haslam	Marshallville	Macon	1908
M. M. Head	Zebulon	Pike	1903
W. H. Hendricks	Tifton	Tift	1903
J. H. Hendry	Shellman	Randolph	1906
G. W. Heriot	Savannah	Georgia	1903
J. D. Heerman	Eastman	Ocmulgee	1884
H. A. Heerman	Sandersville	Washington	1904
H. W. Hesse	Savannah	Georgia	1903
H. E. Hice	Pittsburg	Walker	1900
J. L. Hiers, (V.-P.)	Savannah	Georgia	1895
E. D. Highsmith	Atlanta	Fulton	1908
W. S. Hill	Pelham	Mitchell	1900
J. H. Hines	Atlanta	Fulton	1906
W. T. Hinton	Dacula	Gwinnett	1906
A. G. Hobbs	Atlanta	Fulton	1882

NAME	Post Office	County Society	Admitted
Jno. H. Hockenhull	Cumming	Forsyth	1906
T. C. Hodge	Atlanta	Fulton	1900
F. G. Hodgson	Atlanta	Fulton	1905
M. Hoke	Atlanta	Fulton	1901
M. M. Holland	Statesboro	Bullock	1898
W. Z. Holliday	Augusta	Richmond	1884
A. C. Holliday	Athens	Clarke	1909
R. L. Hollis	Hayston	Newton	1905
C. E. Holmes	Millen	Jenkins	1907
O. L. Holmes	Covington, R. F. D.	Newton	1904
J. B. S. Holmes (V.-P.,	P. Valdosta	Fulton	1872
Quitman Holton	Broxton	Coffee	1907
E. D. Hope	Macon	Bibb	1906
W. R. Houston	Augusta	Richmond	1906
C. N. Howard	Columbus	Muscogee	1903
H. L. Howard	Macon	Bibb	1904
J. S. Howkins	Savannah	Georgia	1906
F. M. Hubbard	Commerce	Jackson	1900
T. V. Hubbard	Atlanta	Fulton	1896
J. M. Hull	Augusta	Richmond	1906
M. Mc. H. Hull	Atlanta	Fulton	1900
Asbury Hull	Augusta	Richmond	1909
J. H. Horsley	West Point	Troupe	1910
J. C. Holliday	Athens	Clarke	1910
W. S. Horn	Gainesville	Hall	1910
J. P. Hunter	Kensington	Walker	1906
T. A. Hurley	Macon	Bibb	1909
M. B. Hutchins	Atlanta	Fulton	1892
M. B. Hutson	Bremen	Haralson	1908
J. E. D. Isbell	Toccoa	Stephens	1905
J. N. Isler	Meigs	Thomas	1906
J. E. Ivey	Rome	Floyd	1906
R. P. Izlar	Waycross	Ware	1898
J. B. Jackson	Clarkesville	Habersham	1906
J. C. Jackson	Newnan, R. F. D.	Coweta	1906
J. L. Jackson	Savannah	Georgia	1907
Max Jackson	Macon	Bibb	1897
W. A. Jackson	Atlanta	Fulton	1905
B. B. Jameson	Columbus	Muscogee	1902
J. A. Jarrell	Jackson	Butts	1899
J. G. Jarrell	Savannah	Georgia	1899
J. L. Jarvis	Atlanta	Fulton	1906
W. C. Jarnigan	Atlanta	Fulton	1910
N. P. Jelks	Hawkinsville	Ocmulgee	1882

NAME	Post Office	County Society	Admitted
C. J. Jenkins	Edison	Tri-County	1900
R. H. Jenkins	Hogansville	Troup	1906
E. M. Jennings	Menlo	Walker	1907
W. D. Jennings, Jr.	Augusta	Richmond	1907
W. J. Jennings	Blakely	Tri-County	1907
F. C. Johnson	Walden	Bibb	1906
G. H. Johnson	Savannah	Georgia	1902
J. C. Johnson	Atlanta	Fulton	1894
J. E. Johnson	Elberton	Elbert	1906
J. H. Johnson	Columbus	Muscogee	1908
M. M. Johnson	Waycross	Ware	1905
O. H. Johnson	Athens	Clarke	1908
G. F. Johnstone	Griffin	Spalding	1906
J. J. Johnston	LaFayette	Walker	1906
M. T. Johnson	Dacula	Gwinnett	1909
B. B. Jones	Metter	Bullock	1908
E. G. Jones	Atlanta	Fulton	1910
H. A. Jones	Millen	Jenkins	1898
H. H. Jones	Pelham	Mitchell	1910
Jabez Jones	Savannah	Georgia	1902
L. M. Jones	Milledgeville	Baldwin	1880
Thos. J. Jones	Newnan	Coweta	1906
W. E. Jones	Atlanta	Fulton	1906
W. T. Jones	Atlanta	Fulton	1905
J. F. Jones	Hogansville	Troup	1910
A. S. Jones	Sylvania	Screven	1910
G. W. Julian	Tifton	Tift	1906
P. H. Keaton	Kestler	Tri-County	1889
W. C. Kellogg	Augusta	Richmond	1905
G. S. Kelly	Lawrenceville	Gwinnett	1908
W. M. Kemp	Marietta	Cobb	1906
A. P. Kemp	Macon	Bibb	1910
W. S. Kendrick (O.)	Atlanta	Fulton	1874
J. P. Kennedy	Atlanta	Fulton	1900
W. C. Kennedy	Bellmont	Hall	1908
W. D. Kennedy	Metter	Bullock	1902
E. H. Kennimer	Bishop	Oconee	1906
B. M. Kennon	McRae	Ocmulgee	1903
J. M. Kenyon	Richland	Stewart	1903
F. P. Key	Nashville	Berrien	1906
M. B. Ketron	Cornelia	Habersham	1910
A. J. Kilpatrick	Augusta	Richmond	1906
R. R. Kime	Atlanta	Fulton	1892
J. O. Kinard	Atlanta	Fulton	1909

NAME	Post Office	County Society	Admitted
J. C. King	Atlanta	Fulton	1900
R. L. King	Hulette	Carroll	1910
J. L. Kirkendol	Millen	Jenkins	1904
J. A. Kitchens	Gainesville, R. F. D. 11	Hall	1909
T. N. Kitchens	Columbus	Muscogee	1907
J. E. Knight	Hoboken	Ware	1910
O. H. Lamb	Demorest	Habersham	1906
R. B. Lamb	Demorest	Habersham	1907
J. F. Lancaster	Forsyth	Monroe	1905
Joe Lane	LaGrange	Troupe	1910
R. Y. Lane	Millen	Jenkins	1907
G. W. Lane	Helena	Ocmulgee	1910
L. H. Lanier	Marlow	Georgia	1909
J. H. Lattimer	Waycross	Ware	1906
Ralston Lattimore, (V.-P.)	Savannah	Georgia	1898
Lawrence Lee	Savannah	Georgia	1906
G. L. Lawton	Douglas	Coffee	1910
J. N. LeConte	Atlanta	Fulton	1900
R. D. Lee	Newnan	Coweta	1907
J. E. Lester	Kennesaw	Cobb	1906
F. L. Lewis	Camilla	Mitchell	1906
M. S. Levy	Augusta	Richmond	1906
J. A. Liddell	Cedartown	Polk	1899
S. B. Liggin	Montezuma	Macon	1908
H. G. Lightner	Ideal	Macon	1908
S. B. Little	Colbert	Madison	1910
A. H. Lindrome	Atlanta	Fulton	1905
W. E. Lipscomb	Cumming, R. F. D., 1	Forsyth	1908
A. G. Little	Valdosta	Ware	1902
Wm. J. Little	Macon	Bibb	1898
A. D. Little	Thomasville	Thomas	1909
J. R. Littleton	Augusta	Richmond	1906
M. M. Lively	Statesboro	Bullock	1905
Hugh M. Lokey	Atlanta	Fulton	1900
B. W. Lockhart	Lula, R. F. D. 1	Hall	1899
V. D. Lockhart (V.-P.)	Mayesville	Banks	1891
George Long	Valdosta	Lowndes	1910
T. C. Longino	Atlanta	Fulton	1905
T. D. Longino	Atlanta	Fulton	1905
R. P. Love	Stilmore	Emanuel	1910
L. B. Lovett	Sparks	Berrien	1906
J. L. Lovvorn	Bowden	Carroll	1894
T. Lowry	Euharlee	Bartow	1905
G. R. Luke	Ashburn	Turner	1907

NAME	Post Office	County Society	Admitted
J. F. Lunsford	Preston	Stewart	1903
W. C. Lyle, (S.-T.)	Augusta	Richmond	1896
J. C. McAfee	Macon	Bibb	1899
T. J. McArthur, (P.)	Cordele	Dooly-Crisp	1897
W. L. McBath	Avalon	Stephens	1900
L. C. McBride	Oconee	Washington	1906
Wm. R. McCall	LaGrange	Troup	1907
C. F. McClain	Calhoun	Gordon	1910
J. W. McClain	Pelham	Mitchell	1910
Lee McCrary	Royston	Franklin	1909
Jno. McCrary	Royston	Franklin	1909
E. C. McCurdy	Shellman	Randolph	1906
W. T. McCurdy	Stone Mountain	DeKalb	1910
J. C. McDonald	McDonald	Coffee	1901
J. H. McDuffie	Columbus	Muscogee	1893
D. E. McEachern	Statesboro	Bullock	1907
S. L. McElroy	Ocilla	Coffee	1903
J. M. McElveen	Brooklet	Bullock	1908
H. H. McGee	Savannah	Georgia	1906
Henry McHatton (C. V.-P. P.)	Macon	Bibb	1883
Mary E. McKey	Macon	Bibb	1904
J. S. McKenzie	Cordele	Dooley-Crisp	1908
J. C. McKinney	Athens	Clarke	1907
W. T. McKinney	Cave Spring	Floyd	1907
D. E. McMaster	Tennille	Washington	1894
F. F. McNeal	Hahira	Lowndes	1910
R. J. McNeil	Danburg	Wilkes	1906
F. W. McRae	Atlanta	Fulton	1887
C. D. McRae	Rochelle	So. Ga. Med. Ass'n	1909
J. P. McWilliams	LaFayette, R. F. D. 3	Walker	1906
G. W. Malone	Sandersville	Washington	1906
J. D. Malone	Marietta	Cobb	1891
S. B. Malone	Sandersville	Washington	1906
W. H. Malone	Mt. Zion	Carroll	1906
J. K. Maloy	Beach	Ware	1909
W. C. Maloy	Rhine	Ocmulgee	1893
D. J. Manget	Atlanta	Fulton	1907
G. R. Maner	Warrenton	Warren	1909
R. A. Mallory	Concord	Pike	1893
H. R. Marchman	Villa Rica	Carroll	1900
W. W. Mangum	Rome	Floyd	1910
F. M. Martin	Shellman	Randolph	1907
H. H. Martin	Savannah	Georgia	1902
J. A. Martin	Mt. Zion	Carroll	1906

NAME	Post Office	County Society	Admitted
R. V. Martin	Savannah	Georgia	1907
F. A. Martin	Tallapoosa	Haralson	1909
A. B. Mason	Atlanta	Fulton	1910
M. Abbi Massoud	Stilmore	Emanuel	1909
A. J. Mathews	Thomason	McDuffie	1910
A. J. Mathews	Elberton	Elbert	1906
J. L. Mathews	Hawkinsville	Ocmulgee	1910
M. F. Mathews	Athens	Clarke	1898
O. H. Mathews	Atlanta	Fulton	1910
W. A. Mathews	Hawkinsville	Ocmulgee	1907
W. J. Mathews	Elberton	Elbert	1892
J. D. Mauldin	New Holland	Hall	1906
D. B. Mayes	Americus	Sumpter	1907
Chas. H. Meldrim	Belfast	Georgia	1909
H. M. Michel	Augusta	Richmond	1906
C. O. Middlebrooks	Bogart	Oconee	1910
J. D. Middlebrooks	Powder Springs	Cobb	1903
Clifford Miller	Rocky Ford, R. F. D. 1	Bullock	1908
G. T. Miller	Macon	Bibb	1908
W. E. Miller	Eastman	Ocmulgee	1902
K. W. Milligan	Augusta	Richmond	1909
W. A. Miller	Arabi	So. Ga. Ass'n	1910
S. W. Mims	Sylvania	Screven	1906
Geo. M. Mitchell	Barnesville	Pike	1908
T. E. Mitchell	Columbus	Musdogee	1896
B. H. Minchew	Atlanta	Fulton	1910
H. A. Mobley	Vienna	Dooly-Crisp	1891
J. W. Mobley	Milledgeville	Baldwin	1901
J. T. Moncrieff	Columbus	Muscogee	1906
H. S. Monroe	Columbus	Muscogee	1907
D. H. Monroe	Emerson	Bartow	1906
C. J. Montgomery	Augusta	Richmond	1895
A. J. Mooney	Statesboro	Bullock	1907
B. R. Moore	Temple	Carroll	1906
G. Y. Moore	Cuthbert	Randolph	1906
D. L. Moore	Jesup	Wayne	1910
J. L. Moore	Griffin	Spalding	1903
J. M. Moore	Macon	Bibb	1897
K. P. Moore (V.-P. S. O. T.)	Macon	Bibb	1871
N. M. Moore	Augusta	Richmond	1901
W. A. Moore	Alapaha	Berrien	1906
W. B. Moore	Eatonton	Putnam	1906
W. R. Moore	Patterson	Pierce	1908
I. W. Moorman	Ambrose	Coffee	1900

NAME	Post Office	County Society	Admitted
J. B. Morgan (V. P.,P.)	Augusta	Richmond	1891
R. J. Morgan	Cochran	Ocmulgee	1907
W. E. Morgan	LaGrange	Troup	1909
A. A. Morrison	Savannah	Georgia	1902
J. E. Morrison	Savannah	Georgia	1909
R. C. Moseley	Bolingbroke	Monroe	1899
F. G. Moss	Royston	Franklin	1909
W. A. Mulherin	Augusta	Richmond	1905
F. M. Mullino	Montezuma	Macon	1908
J. L. Mudrock	Lindale	Floyd	1906
E. E. Murphey (V.-P.)	Augusta	Richmond	1900
C. E. Murphy	Atlanta	Fulton	1901
M. W. Murphy	Ringgold	Walker	1907
J. W. Neal	Scotland	Ocmulgee	1909
J. H. Neall	Atlanta	Fulton	1909
M. F. Nelms	Commerce	Jackson	1909
G. W. Nelson	Marshallville	Macon	1909
J. E. New	Dexter	Dublin	1909
J. W. Newnan	Buchanan	Haralson	1909
E. New	Dublin	Laurens	1906
J. P. Newman	Macon R. F. D. 2	Bibb	1906
W. P. Nicolson (P.)	Atlanta	Fulton	1883
G. M. Niles	Atlanta	Fulton	1909
D. B. Nisbet	Eatonton	Putnam	1909
G. H. Noble (P.)	Atlanta	Fulton	1883
C. T. Nolan	Marietta	Cobb	1899
G. M. Norton	Savannah	Georgia	1899
W. E. Norton	Savannah	Georgia	1907
R. J. Nunn (C. V.-P., P.)	Savannah	Georgia	1867
J. T. Nunnally	Griffin	Spalding	1906
T. E. Oden	Blackshear	Ware	1905
W. W. Odom	Lyons	Tooms	1908
T. E. Oertel	Augusta	Richmond	1900
C. R. Oglesby	Waycross	Ware	1906
J. V. P. Oglesby	Atlanta	Fulton	1908
B. P. Oliveros	Savannah	Georgia	1903
J. C. Olmsted	Atlanta	Fulton	1886
R. J. O'Neal	Langdals, Ala	Troup	1906
Jno. H. O'Quinn	Patterson	Pierce	1908
W. B. O'Rear	Savannah	Georgia	1903
L. N. Osborn	Maysville, R. F. D.	Jackson	1900
S. P. Ousley	Macon	Bibb	1906
G. M. Overstreet	Sylvania	Screven	1899
W. W. Owens	Savannah	Georgia	1881

NAME	Post Office	County Society	Admitted
J. M. Page	Dublin	Laurens	1904
J. B. Palmer	Thomasville	Thomas	1906
S. B. Palmer	Macon	Bibb	1905
W. H. Parker	Mize	Stephens	1906
G. M. Parker	Carnesville	Franklin	1909
W. B. Parks	Atlanta	Fulton	1882
J. Z. Patrick	Pulaski	Bullock	1905
W. L. Patten	Milltown	Berrien	1895
W. E. Parris	Gainesville	Hall	1910
F. D. Patterson	Cuthbert	Randolph	1895
J. C. Patterson	Lumpkin	Stewart	1894
L. T. Patillo	Atlanta	Fulton	1905
Geo. A. Paulk	Alapaha	Berrien	1906
J. E. Paullin	Atlanta	Fulton	1907
B. E. Pearce	Atlanta	Fulton	1906
C. W. Peek	Cedartown, R. F. D.	Polk	1906
W. W. Peek	Louvale	Stewart	1906
J. B. Pendergrass	Jefferson	Jackson	1910
J. E. Pennington	Esom Hill	Polk	1906
T. E. Pennington	Naylor	Lowndes	1910
W. H. Perkinson	Marietta	Cobb	1900
E. C. Perkins	Alma	Coffee	1910
W. E. Person	Atlanta	Fulton	1910
N. Peterson	Tifton	Tift	1910
S. L. Phillips	Savannah	Georgia	1909
T. J. Phillps	Griffin, R. F. D.	Spalding	1906
C. E. Pickett	Richland	Stewart	1906
W. W. Pilcher	Warrenton	Warren	1909
J. W. Pinkston	Greenville	Meriweather	1906
J. W. Polhill	Hawkinsville	Ocmulgee	1909
W. P. Ponder	Forsyth	Monroe	1885
B. C. Powell	Villa Rica	Carroll	1896
B. F. Powell	Sylvania	Screven	1906
J. F. Powell	Grasstown, R. F. D.	Ocmulgee	1893
J. M. Price	Tifton	Tift	1907
E. L. Prince	Morganton	Fannin	1906
J. P. Procter	Athens	Clarke	1906
Wm. C. Pumpelly	Macon	Bibb	1906
B. S. Purse	Savannah	Georgia	1895
C. M. Rakestraw	Savannah	Georgia	
C. C. Ramsay	Hogansville, R. F. D. 3	Georgia	1909
J. H. Randle	Porterdale, R. F. D. 1	Newton	1907
Wm. Rawlings	Sandersville	Washington	1906
C. D. Redding	Warthen	Washington	1897

NAME	Post Office	County Society	Admitted
Ward Redwine	Cassville	Bartow	1906
D. S. Reese	Lowell	Carroll	1907
C. W. Reid	Pelham	Mitchell	1897
K. L. Reid	Atlanta	Fulton	1905
R. R. Reid	Savannah	Georgia	1903
Herbert Respess	Macon	Bibb	1907
H. V. Reynolds	Marietta	Cobb	1899
J. A. Rhodes	Crawfordville	Taliaferro	1909
E. P. Rice	Augusta	Richmond	1906
J. D. Rice	Homer	Banks	1906
C. H. Richardson (V.-P.)	Montezuma	Macon	1886
F. M. Ridley, Sr.	LaGrange	Troup	1910
F. M. Ridley, Jr.	LaGrange	Troup	1910
H. A. Righton	Savannah	Georgia	1909
R. B. Ridley, Jr.	Atlanta	Fulton	1902
B. F. Riley	Thomson	McDuffie	1905
C. R. Riner	Summit	Emanuel	1907
J. C. Rippard	Waycross	Ware	1898
H. B. Roberts	Malone	Dooly-Crisp	1907
J. B. Roberts	Atlanta	Fulton	1875
O. W. Roberts	Villa Rica	Carroll	1907
S. R. Roberts	Atlanta	Fulton	1905
C. W. Roberts	Douglas	Coffee	1909
E. H. Robertson	Dallas	Polk	1910
P. E. B. Robertson	Gainesville	Hall	1906
W. C. Robinson	Atlanta	Fulton	1897
W. R. Robinson	Columbus	Muscogee	1910
F. S. Rogers	Coleman	Randolph	1910
D. A. Rogers	Dearing	McDuffie	1910
J. T. Rogers	Savannah	Georgia	1900
T. E. Rogers	Barge	Carroll	1906
W. D. Rogers	Keningston	Walker	1907
W. T. Rogers	Coleman	Randolph	1906
O. L. Rogers	Sandersville	Washington	1909
W. F. Rosborough	Augusta	Richmond	1906
J. T. Ross	Macon	Bibb	1891
S. T. Ross	Winder	Jackson	1910
L. E. Roper	Comer	Madison	1910
L. C. Roughlin	Atlanta	Fulton	1905
Dunbar Roy	Atlanta	Fulton	1892
C. C. L. Rudicil	Chickamauga	Walker	1905
H. L. Rudolph	Gainesville	Hall	1904
J. B. Rudolph	Gainesville	Hall	1906
W. P. Rushin	Macon	Bibb	1906

NAME	Post Office	County Society	Admitted
W. W. Rutland	Ashburn	Turner	1907
H. M. Sale,	Tignall, R. F. D.	Wilkes	1906
M. M. Saliba	Wilson, N. C.		1902
R. L. Sample	Statesboro	Bullock	1902
Laetus Saunders	Commerce	Jackson	1906
W. E. Saunders	Arlington	Tri-County	1907
Miss Annie Sawyer	Atlanta	Fulton	1906
J. L. Sappington	Hamilton	Harris	1910
F. W. Schnauss	Cecil	Beerien	1907
J. A. Selden	Macon	Bibb	1906
W. A. Selman	Atlanta	Fulton	1905
Guy S. Selman	Rays Mills	Berrien	1909
W. C. Sessoms	Brewton	Laurens	1904
J. R. Sewell	Ashland	Franklin	1909
J. W. Seymour	Deweyrose	Elbert	1909
A. C. Shamblin	Rome	Floyd	1908
O. E. Shankle	Commerce	Jackson	1906
J. R. Shannon (V.-P.)	Forsyth, R. F. D. 1	Monroe	1893
C. K. Sharp	Arlington	Tri-County	1900
L. J. Sharp	Commerce	Jackson	1898
H. W. Shaw	Augusta	Richmond	1907
W. J. Shaw	Rome	Floyd	1905
T. E. Sheffield	Cedar Springs	Early	1908
E. O. Shellhouse	Calhoun	Gordon	1910
W. M. Shepard	Adel	Berrien	1906
J. L. Shepard	Carnegie	Randolph	1909
J. A. Shields	LaFayette, R. F. D. 3	Walker	1906
H. H. Shipp	Finleyson, So. Ga. Ass'n	Dooly-Crisp	1906
J. H. Shorter	Macon	Bibb	1893
J. M. Sigman	Savannah	Georgia	1905
A. B. Simmons	Savannah	Georgia	1891
J. W. Simmons, Jr.	Brunswick	Glynn	1907
R. O. Simmons	Rome, R. F. D. 2	Floyd	1907
W. E. Simmons	Metter	Bullock	1910
A. W. Simpson	Washington	Wilkes	1905
J. Ross Simpson	Atlanta	Fulton	1895
O. O. Simpson	Norcross	Gwinnett	1910
R. A. Simpson	Washington	Wilkes	1906
E. H. Sims	Columbus	Muscogee	1892
H. R. Slack	LaGrange	Troup	1893
B. T. Smith	Carnesville	Franklin	1909
A. A. Smith (V.-P., P.)	Hawkinsville	Ocmulgee	1875
A. C. Smith	Elberton, R. F. D. 6	Elbert	1890
Archibald Smith	Atlanta	Fulton	1903

NAME	Post Office	County Society	Admitted
Claude A. Smith (S.T.)	Atlanta	Fulton	1900
Geo. L. Smith	Swainsboro	Emanuel	1905
H. M. Smith	Edgewood	DeKalb	1900
J. E. W. Smith	Waycross	Ware	1906
J. M. Smith	Valdosta	Ware	1909
L. S. Smith	Edgewood	DeKalb	1905
Louis Smith	Milltown	Berrien	1908
M. R. Smith	Cordele, So. Ga. Ass'n	Dooly-Crisp	1907
S. J. Smith	Jefferson	Jackson	1906
S. P. Smith	Cornelia	Habersham	1909
S. S. Smith	Athens	Clarke	1907
W. J. Smith	Juliette	Monroe	1908
W. Monroe Smith	Atlanta	Fulton	1900
Wm. T. Smith	Tifton	Tift	1907
W. W. Smith	Clio	Georgia	1907
S. H. Smith	Culloden	Monroe	1910
E. J. Smith	Hahira	Lowndes	1910
E. L. Smith	Leon	Ocmulgee	1910
Geo. B. Smith	Rome	Floyd	1910
J. E. Sommerfield	Atlanta	Fulton	1899
A. J. Speer	Macon	Macon	1910
R. J. Spier	Cartersville	Bartow	1910
A. J. Speer	Cornelia	Habersham	1909
J. M. Spence	Camilla	Mitchell	1906
E. J. Spratling	Atlanta	Fulton	1910
T. M. Spruell	Temple	Carrol	1906
C. L. Stahl	Macon	Bibb	1910
W. B. Standifer	Blakely	Tri-County	1886
H. B. Stanley	Savannah	Georgia	1907
M. M. Stapler	Macon	Bibb	1897
C. E. Stapleton	Brooklet, R. F. D. 1	Bullock	1907
W. H. Steele	Jackson, R. F. D.	Butts	1907
V. P. Stevens	Poulan	Worth	1908
C. A. Stevenson	Camilla	Mitchell	1909
A. W. Sterling	Atlanta	Fulton	1910
W. K. Stewart	Sylvester	Worth	1910
R. G. Stephens	Atlanta	Fulton	1910
L. P. Stephens	Atlanta	Fulton	1910
R. P. Stinchcomb	Kestler	Tri-County	1910
W. W. Stewart	Columbus	Muscogee	1909
J. A. Stewart	Portal	Bullock	1909
J. T. Stewart	Griffin	Spalding	1906
C. C. Stockard	Atlanta	Fulton	1896
C. C. Stockard, Jr.	Atlanta	Fulton	1909

NAME	Post Office	County Society	Admitted
R. J. Stone	Hawkinsville	Ocmulgee	1903
R. G. Stone	Hawkinsville	Ocmulgee	1908
A. H. Story	Augusta	Richmond	1906
W. L. Story	Ashburn	Turner	1897
Z. M. Story	Winfield	McDuffie	1906
W. L. Stohart	Savannah	Georgia	1907
A. J. S. Stovall	Elberton	Elbert	1896
R. H. Stovall	Vienna, So. Ga. Ass'n	Dooly-Crisp	1906
M. N. Stow	Jessup	Waynes	1909
H. C. Strickland	Athens, R. F. D.	Jackson	1900
J. C. Strickland	Pembroke	Georgia	1907
C. W. Strickler	Atlanta	Fulton	1900
E. C. Stuckey	Atlanta	Fulton	1909
F. M. Sutton	Atlanta	Fulton	1904
R. C. Swint	Milledgeville	Baldwin	1902
V. H. Taliaferro	Eatonton	Putnam	1906
J. V. Talley	Milltown	Berrien	1908
T. M. Talbot	Valdosta	Lowndes	1910
J. B. Tanner	Lumpkin, R. D. 2	Stewart	1906
J. S. Tankersley	Ellijay	Fannin	1894
W. B. Tate, V-P	Tate	Pickens	1890
C. E. Taylor	Cochran	Ocmulgee	1907
W. E. Taylor	Atlanta	Fulton	1905
W. J. Tatum	Ft. Gaines	Clay	1910
J. O. Teasley	Lily, S. Ga. Ass'n	Dooly-Crisp	1907
Andrew Temple	Statesboro, R. 1	Bullock	1907
H. W. Terrell	LaGrange	Troup	1900
J. H. Terrell	Toccoa	Stephens	1906
L. P. Tessier	Augusta	Richmond	1906
J. W. Thaxton	Jackson, R. F. D.	Butts	1906
D. L. Thomas	Eatonton	Putnam	1900
J. M. Thomas	Griffin	Spalding	1894
J. A. Thomas	Olympia	Lowndes	1910
F. H. Thomas	Valdosta	Lowndes	1910
W. R. Thomas	Waycross	Ware	1910
M. R. Thomas	Savannah	Georgia	1906
C. Thompson	Millen	Jenkins	1910
J. D. Thompson	Atlanta	Fulton	1908
R. M. Thomson, V-P	Savannah	Georgia	1904
E. C. Thrash	Atlanta	Fulton	1899
T. H. Thrasher	Ashburn	Turner	1899
D. N. Thompson	Elberton	Elbert	1909
T. C. Thompson	Vidalia	Toombs	1909
W. W. Tison	Cedartown	Polk	1910

NAME	Post Office	County Society	Admitted
W. C. Tipton	Sylvester	Worth	1910
T. Toepel	Atlanta	Fulton	1910
J. C. Trentham	Cedartown, R. F. D.	Polk	1909
J. S. Todd, O., C., P.	Atlanta	Fulton	1872
J. L. Tracy	Sylvester	Worth	1906
J. K. Train	Savannah	Georgia	1904
Wm. D. Travis	Covington	Newton	1898
G. A. Traylor	Augusta	Richmond	1906
G. C. Trimble	East Point	Fulton	1891
C. L. Tucker	McDonough	Spalding	1909
F. V. Turk	Stilesboro	Bartow	1899
J. M. Tubble	Lithonia	DeKalb	1910
H. A. Turner	Rome	Floyd	1906
W. J. Turner	Ashburn	Turner	1897
W. A. Turner	Newnan	Coweta	1909
J. G. Tuten	Jesup	Wayne	1909
C. O. Tye	Edison	Tri-County	1907
W. E. Tyson	Chula	Tift	1907
J. M. Underwood	LaFayette	Walker	1903
W. A. Upchurch	Atlanta	Fulton	1910
A. H. Vandyke	Atlanta	Fulton	1903
H. A. Vannn	Boston	Thomas	1906
G. K. Varden	Atlanta	Fulton	1910
S. A. Visanaka	Atlanta	Fulton	1909
Frederick Wahl	Savannah	Georgia	1900
W. J. Waits	Flovilla	Butts	1906
C. E. Walker	Sycamore	Turner	1899
E. Y. Walker	Willard	Putnam	1906
J. L. Walker	Waycross	Ware	1892
N. P. Walker	Milledgeville	Baldwin	1906
O. B. Walker	Bowman	Elbert	1906
T. D. Walker, Sr.	Cochran	Ocmulgee	1907
T. D. Walker, Jr.	Cochran	Ocmulgee	1907
J. C. Wall	Eastman	Ocmulgee	1908
F. R. Wallace	Cordelle, So. Ga. Ass'n.	Dooly-Crisp	1906
M. Walton	Coffinton	Stewart	1907
R. J. Walton	Harlem	Richmond	1906
Ward	Oxford	Newton	1910
C. P. Ward	Atlanta	Fulton	1905
J. A. Ward	Cordele, So. Ga. Ass'n	Dooly-Crisp	1906
F. N. Ware	Waycross	Ware	1910
T. P. Waring	Savannah	Georgia	1903
G. H. Warren	Cartersville	Bartow	1910
Andrew R. Watkins	Chamblee	DeKalb	1905

NAME	Post Office	County Society	Admitted
J. C. Watts	Rome	Floyd	1906
A. F. Weathers	Shellman	Randolph	1906
J. D. Weaver	Eatonton	Putnam	1894
O. H. Weaver	Macon	Bibb	1899
J. C. Weaver	Atlanta	Fulton	1910
F. L. Webb	Macon	Bibb	1906
M. L. Webb	Lenox	Berrien	1910
W. H. Weeks	Epworth	Fannin	1909
J. Weischelbaum	Savannah	Georgia	1903
J. J. Weithers	Waycross	Ware	1910
F. I. Welch	Newnan	Coweta	1909
T. J. Wells	Washington	Wilkes	1910
G. W. Westbroook	Commerce, R. F. D. 14	Madison	1898
R. J. Westbrook	Commerce, R. F. D. 14	Madison	1906
W. F. Westmoreland, O P	Atlanta	Fulton	1886
A. E. Wheeler	Atlanta	Fulton	1904
A. J. Whelchel	Coney, So. Ga. Ass'n	Dooly-Crisp	1906
H. C. Welchel	Douglas	Coffee	1900
O. T. White	Atlanta	Fulton	1910
Wm. H. Whipple	Macon	Bibb	1906
J. M. Whitaker	Milledgeville	Baldwin	1883
A. D. White	Pendergrass	Jackson	1905
A. F. White	Flovilla	Butts	1906
Geo. R. White	Savannah	Georgia	1902
J. C. White	Atlanta	Fulton	1906
W. M. White	Watkinsville	Oconee	1906
S. L. Whitely	Cedartown	Polk	1907
R. H. Wicker	Rome	Floyd	1901
G. A. Wilcox	Augusta	Richmond	1896
A. L. Wilkins	Eastman	Ocmulgee	1907
C. L. Wilkins	Columbus	Muscogee	1903
Dallas Williams	Folkston	Ware	1910
F. E. Williams	Vienna	Dooly	1908
H. J. Williams, O., C. P.	Macon	Bibb	1883
S. F. Williams	Cordele, So. Ga. Ass'n	Dooly-Crisp	1908
W. J. Williams	Ellabelle	Georgia	1897
L. W. Williams	Statesboro	Bullock	1910
W. P. Williams	Blackshear	Ware	1890
Clarence Willis	Barnesville	Pike	1908
Irvin Willis	Omega	Tift	1910
B. V. Wilson	Dacula	Gwinnett	1906
L. E. Wilson	Bowden	Carroll	1907
J. C. Wilson	Valdosta	Lowndes	1910
W. S. Wilson	Savannah	Georgia	1906

NAME	Post Office	County Society	Admitted
J. S. Wimberly	Lumpkin, R. F. D. 4	Stewart	1891
W. R. Winchester	Macon	Bibb	1883
A. W. Winders	Savannah	Georgia	1906
C. V. Wood	Cedartown	Polk	1900
J. E. Woods	Jackson	Butts	1909
W. E. Woods	Dalton	Gordon	1909
A. S. Word	Washington	Wilkes	1910
R. C. Woodard	Adel	Berrien	1906
L. O. Wooten	Unadilla, So. Ga. Ass'n.	Dooly-Crisp	1897
A. R. Wright	Renfroe	Stewart	1906
J. C. Wright	Folkston	Ware	1906
Jno. C. Wright	Augusta	Richmond	1909
J. E. Wright	Macon	Bibb	1899
Thos. R. Wright	Augusta	Richmond	1909
Jas. B. Wright	Augusta	Richmond	1906
S. J. Wylie	Columbus	Muscogee	1910
Y. H. Yarbrough	Milledgeville	Baldwin	1908
J. R. Youmans	Columbus	Muscogee	1901
L. P. Youmans	Swainsboro	Emanuel	1901
L. S. Young	Moreland	Coweta	1910
S. E. Young	Midland	Muscogee	1909

HONORARY MEMBERS

Any member for old age, length of service, or other good reason may, upon recommendation of the Board of Censors, be elected to honorary membership of his county society without dues. Such member shall be enrolled as honorary member of his county society and this Association, and shall be entitled to all the privileges of the Association.

NAME	Post Office	County Society
F. M. Brantley	Senoia	Coweta.
F. M. Brock	Bowden	Carroll.
J. F. Cato	Americus	Sumpter.
O. C. Collins	Forsyth	Monroe.
W. A. Carlton	Athens	Clarke.
W. B. Conway	Athens	Clarke.
T. S. Dekle	Thomasville	Thomas.
J. E. Donahoo	Statesboro	Bullock.
J. T. Ellis	Jackson	Butts.
T. T. Fain	Blue Ridge	Fannin.
W. W. Fitts	Carrollton	Carroll.
G. P. Folks	Waycross	Ware.
N. A. Fryer	Bickley	Coffee.
C. C. Garrett	Lithia Springs	Douglas.
Geo. F. Green	Dublin	Laurens.
T. H. Hall	Dublin	Laurens.
J. R. Henderson	Sandersville, R. F. D. 1	Washington
John Hockenhull	Cumming	Forsyth.
H. C. Hodges	Oconee, R. F. D.	Washington.
W. S. Horn	Gainesville	Hall.
J. H. Jenkins	Thomasville	Thomas.
W. C. Kendrick	Dawson	Terrell.
John S. Lane	Brooklet	Bullock.
W. C. Lunday	Dawson, R. F. D.	Terrell.
W. B. Marshall	Cordele, S. Ga. Ass'n	Dooly-Crisp.
E. T. Mathis	Americus	Sumter
H. A. Metteaur	Macon	Bibb.
S. S. L. Miller	Brooklet, R. F. D. 1	Bullock.
S. B. Mills	Sandersville	Washington.
W. E. Paris	Gainesville	Hall.
J. P. Phillips	Clarkesville	Habersham.

NAME	Post Office	County Society
S. H. Smith	Culloden	Monroe.
G. Tennent	Marietta	Cobb.
L. J. Thomas	Dublin	Laurens.
E. Van Goidtsnoven	Atlanta	Fulton.
T. D. Walker, Jr.	Cochran	Ocmulgee Ass'n.
S. Walker	Dublin	Laurens.
J. L. Weddington	Dublin	Laurens.
A. M. Winn	Laurenceville	Gwinnett.

IN MEMORIAM

SPECIAL REQUEST TO EVERY MEMBER—The Secretary **earnestly requests each member of the Association** to aid in **filling the blanks** in the following Roll of Deceased Members **by making the necessary inquiries** in their respective cities and counties, **and writing him at once,** on obtaining the desired information.

NAME	Post Office	County	Admitted	Died
Adams, C. B.	Augusta	Richmond	1868	1875
Aiken, W. F.	Savannah	Chatham	1895	1900
Alexander, J. R.	Cave Springs	Floyd	1849	.....
Alexander, L. B.	Forsyth	Monroe	1877	1891
Alexander, J. F. (P, C, V)	Atlanta	Fulton	1849	1901
Alfriend, E. W. (V-P)	Albany	Dougherty	1852	1886
Armstrong, W. S.	Atlanta	Fulton	1886	1896
Armstrong, W. S.	Atlanta	Fulton	1900	1909
Arnold, R. D. (V-P, P)	Savannah	Chatham	1849	1876
Ashworth, A. B. (S)	Atlanta	Fulton	1887	1889
Avary, J. C.	Decatur	DeKalb	1859	1873
Baker, A. H.	Augusta	Richmond	1876	1891
Ballinger, M. R.	Floyd Springs	Floyd	1860	1886
Banks, J. T. (V-P, P)	Griffin	Spalding	1858	1880
Barker, A. H.	Augusta	Richmond	1876	1891
Barkwell, T. J.	Hawkinsville	Pulaski	1859	.....
Barnett, J. W.	Raytown	Taliaferro	1880	1890
Battey, Robt. (C., P.)	Rome	Floyd	1859	1895
Battle, H. L.	Russellville	Monroe	1849	.....
Beasley, I. A.	West Point	Troup	1849	1897
Bell, T. W.	Busyville	Houston	1853	.....
Bignon, H. A.	Augusta	Richmond	1852	1870
Billings, S. A.	Columbus	Muscogee	1855	1872
Bizzell, W. D. (V.-P.)	Atlanta	Fulton	1882	1890
Black, R. C.	Augusta	Richmond	1852	1860
Blanchard, M. D.	Columbus	Muscogee	1903	1904
Boech, E.	Atlanta	Fulton	1908	1909
Bomar, B. F.	Atlanta	Fulton	1859	.....
Borcheim, L. E.	Atlanta	Fulton	1886	1887
Boswell, S. J. (V-P)	Columbus	Muscogee	1855	.....
Bosworth, Don B.	Atlanta	Fulton	1894	1898
Bothwell, D. J.	Vienna	Dooly	1849	.....
Bozeman, J. F.	Atlanta	Fulton	1855	1877

NAME	Post Office	County	Admitted	Died
Boring, Jno. M. (V-P)	Atlanta	Fulton	1856	1891
Boyd, Montague L.	Savannah	Chatham	1889	1897
Boyd, A. F.	Savannah	Chatham	1891	1901
Boyd, W. H.	Rome	Floyd	1903	1904
Brandon, D. S.	Thomasville	Thomas	1873	1878
Brantley, S. D.	Sandersville	Washington	1849	1897
Brawner, W. M.	Lexington	Oglethorpe	1883	1891
Broadhurst, W. W.	Augusta	Richmond	1852	1861
Brooks, C. A.	Americus	Sumter	1888	1894
Brown, S. E.	Eatonton	Putnam	1890	1896
Bruce, R. J.	Thomasville	Thomas	1874	1878
Bryans, R. G.	Jackson	Butts	1890	1894
Bunn, William	Wilna	Houston	1854	.....
Burgess, Wm. R. (T, O)	Macon	Bibb	1870	1878
Burney, S. W. (P)	.....	.....	.....	1876
Burruss, L. K.	Carnesville	Franklin	1899	1901
Campbell, Robert	Augusta	Richmond	1849	1885
Callaway, Enoch	LaGrange	Troup	1895	1901
Carroll, J. C.	Laurens Hll	Laurens	1857	1879
Carroll, R. C.	Augusta	Richmond	1873	1882
Carter, C. J.	Lake Park	Lowndes	1889	1893
Carter, W. D.	Winterville	Clark	1898	1908
Castlen, F. G.	Macon	Bibb	1867	1874
Carlton, J. M.	Athens	Clarke	1882	1883
Cason, E. A.	LaGrange	Troup	1897	1897
Charlton, T. J. (C)	Savannah	Chatham	1862	1886
Charters, W .M. (P)	Savannah	Chatham	1851	1883
Chase, D. S.	Augusta	Richmond	1862	.....
Cickey, D. C.	Macon	Bibb	1894	1896
Clark, B. J.	Barnesville	Pike	1896	1898
Clark, S. B.	Rich Factory	Richmond	1852	.....
Campbell, H. F. (O, V-P, P)	Augusta	Richmond	1851	1892
Coe, J. N.	Flat Rock	Pike	1856	.....
Colding, C. H.	Savannah	Chatham	1882	1894
Coleman, John S.	Augusta	Richmond	1891	1892
Colley, F. S. (P)	Monroe	Walton	1856	.....
Cooper, G. F. (O, S, V-P,)	Americus	Sumter	1849	1882
Cooper, Hunter P.	Atlanta	Fulton	1894	1906
Copeland, A. B.	Hamilton	Harris	1878	1882
Cornwall, G. H.	Hillsboro	Jasper	1854	.....
Cortelyou, P. R.	Marietta	Cobb	1887	1902
Coursey, W. D.	Vidalia	Montgomery	1894	1898
Crawford, S. S.	Augusta	Richmond	1857	.....
Crump, E. D.	Herndon	Burke	1872	1881

NAME	Post Office	County	Admitted	Died
Cumming, H. M.	Augusta	Richmond	1862	1887
Cunningham, I. S.	Big Creek	Forsyth	1859	1862
Cunningham, W. D.	Jasper	Pickens	1859	1866
D'Alvigney, N.	Atlanta	Fulton		1877
Davenport, C. W.	Point Peter	Oglethorpe	1852	.....
Davenport, H. S.	Calhoun	Gordon	1859	.....
Davis, W. L.	Albany	Dougherty	1849	1874
Deadwyler, M. P. (V-P)	Elberton	Elbert	1868	1895
Dean, S. H.	Conyers	Rockdale	1856	.....
Dearing, W. E.	Augusta	Richmond	1852	1867
DeCortez, C. A.	Savannah	Chatham	1872	.....
DeLamar, Wyatt C.	Mountain Hill	Harris	1903	1906
Dickinson, J. T.	Albany	Dougherty	1857	.....
Dickinson, R. Q. (V-P, P)	Albany	Dougherty	1850	.....
Divine, K. C.	Atlanta	Fulton	1882	1899
Dobbins, W. O.	Fort Gaines	Clay	1883	1890
Dostor, B. R.	Blakely	Early	1873	1903
Doster, B. R., Jr.	Blakely	Early	1896	1899
Doughty, Henry Campbell	Augusta	Richmond	1896	1899
Doughty, W. H.	Augusta	Richmond	1857	1905
Dugas, L. A. (P)	Augusta	Richmond	1852	1884
Duncan, Wm.	Savannah	Chatham	1868	1900
Dupree, L. J.	Camilla	Mitchell		1890
Engram, R. O.	Montezuma	Macon	1881	1893
Eve, Joseph A.	Augusta	Richmond	1852	1886
Eve, S. E.	Augusta	Richmond	1854	1868
Felder, W. L.	Augusta	Richmond	1857	1867
Fish, J. D. (T)	Savannah	Chatham	1875	1879
Fitzgerald, E.	Macon	Bibb	1882	1885
Ford, DeSaussure (V-P, C, P)	Augusta	Richmond	1857	1905
Ford, L. D. (T)	Augusta	Richmond	1849	1884
Fort, Moses T.	Hawkinsville	Pulaski	1859	1878
Foster, Eugene (V-P, C, P)	Augusta	Richmond	1875	1903
Freeman, S. H.	Dacula	Gwinnett	1891	1897
Frederick, H. F.	Hawkinsville	Pulaski	1897	1903
Franklin, M. A.	Macon	Bibb	1849	1848
Frazier, W. M.	Hawkinsville	Pulaski	1850	.....
Gaither, Henry	Oxford	Newton	1851	1890
Gaither, B. T.	Oxford	Newton	1852	1853
Gardner, J. W.	Augusta	Richmond	1857	.....
Gaston, J. McF.	Atlanta	Fulton	1884	1904
Gerdine, John	Athens	Clarke	1882	1903
Gilmer, William B.	Macon	Bibb	1893	1899
Girardy, Edward	Augusta	Richmond	1852	1859

NAME	Post Office	County	Admitted	Died
Gordon, J. M.	Savannah	Chatham	1849	.....
Gray, James A. (S)	Atlanta	Fulton	1882	1887
Gray, S. H.	Barnesville	Pike	1871	1885
Green, A. B.	Pond Town	Sumter	1849	.....
Green, H. K.	Macon	Bibb	1849	1867
Green, Thos. F.	Milledgeville	Baldwin	1849	1879
Gregory, J. D.		Sumter	1849	.....
Griffin, C. F.	Cassville	Bartow	1888	1893
Griggs, A. W. (O, V-P, C, P)	West Point	Troup	1866	1900
Griggs, R. E.	Columbus	Muscogee	1892	1897
Grimes, T. W.	Columbus	Muscogee	1855	1882
Geurard, J. N.	Savannah	Chatham	1902	1903
Habersham, J. C.	Savannah	Chatham	1853	.....
Habersham, J. C., Jr., (V-P)	Savannah	Chatham	1866	1881
Habersham, S. E.	Eatonton	Putnam	1870	.....
Hagan, Hugh	Atlanta	Fulton	1892	1898
Hall, M. R.	Warrenton	Warren	1900	1904
Hallum, J. W.	Carrollton	Carroll	1891	1895
Hammond, D. W. (V-P, C)	Macon	Bibb	1857	1887
Harden, W. P.	Harmony Grove	Jackson	1852	1885
Hardon, V. O. (O)	Atlanta	Fulton	1886	1904
Harrell, W. J.	Bainbridge	Decatur	1874	1881
Harris, S. N. (V-P)	Savannah	Chatham	1851	1854
Harris, N. O.	Atlanta	Fulton	1887	1896
Harris, Juriah (O, V-P)	Savannah	Chatham	1852	1876
Harrison, Gabriel	Macon	Bibb		1862
Hart, A. C.	Waynesboro	Burke	1852	.....
Hatch, Milo G. (C)	Tennille	Washington	1883	1897
Hatchett, J. M.	Fort Gaines	Clay	1892	1892
Havis, M. W.	Perry	Houston	1854	1890
Hawes, E. C.	Appling	Columbia	1852	.....
Hawkins, A. M. F.	Ball Ground	Cherokee	1891	1903
Hawkins, S. B.	Americus	Sumter	1871	1892
Heard, T. O.	Griffin	Spalding	1867	.....
Hendricks, J. B.	Covington	Newton	1857	1881
Henry, G. C.	West Point	Troup	1872	.....
Hightower, Robt. H.	Dublin	Laurens	1899	1905
Hollis, T. B.	Bolingbroke	Monroe	1897	1901
Holt, W. F. (V-P, P)	Macon	Bibb	1867	1901
Hook, E. B.	Augusta	Richmond	1857	1862
Houston, J. P. R.	Savannah	Chatham	1873	1892
Howell, Dan H. (S)	Atlanta	Fulton	1878	1899
Hoxey, Thomas	Columbus	Muscogee	1849	1853
Hollingsworth, W. T.	Madison	Morgan	1857	1893

NAME	Post Office	County	Admitted	Died
Holmes, G. W. (V-P, P, C)	Rome	Floyd	1867	1890
Hoyt, W. D.	Rome	Floyd	1872	1904
Holmes, T. M. (O)	Rome	Floyd	1883	1891
Hamilton, J. L.	Stone Mountain	DeKalb	1859	1890
Hunter, E. H. W.	Louisville	Jefferson	1867	1883
Hurt, C. D. (C)	Atlanta	Fulton	1890	1906
Hynds, Robt. W.	Atlanta	Fulton	1905	1905
Ingraham, E. P.	Albany	Dougherty	1870	1873
Irvin, Robert	Augusta	Richmond	1880	1881
Jeffords, H. M.	Sylvester	Worth	1904	1909
Johnson, C. W.	Macon	Bibb	1870	1875
Johnson, John M.	Atlanta	Fulton	1866	1886
Joiner, W. W.	Hawkinsville	Pulaski	1897	1900
Jones, B. O.	Atlanta	Fulton	.....	.....
Jones, J. W.	Atlanta	Fulton	1857	1871
Jowers, Clebe	Americus	Sumter	1897	1897
Kennedy, L. P.	Atlanta	Fulton	1890	1892
Kennebrew, Henry	Athens	Clarke	1883	1886
Kirkscey, E. J. (V-P)	Columbus	Muscogee	1871	1877
Kollock, P. M. (P)	Savannah	Chatham	1852	1872
Lamar, T. R. (V-P)	Macon	Bibb	1849	1859
Lockhart, R. H.	Cloumbus	Muscogee	1855	1859
Lanier, S. J.	Mt. Airy	Habersham	1890	1902
Lattimer, C. T.	Macon	Bibb	1889	1889
Lawrence, L. L.	Blountsville	Jones	1889	1890
Le Conte, Jos.	Berkeley	California	1849	1901
LeHardy, J. C. (T, V-P, P)	Savannah	Chatham	1868	1906
Leitner, C. B.	Columbus	Muscogee	1852	1897
Lightfoot, W. S.	Macon	Bibb	1849	1864
Long, Crawford W.	Athens	Clarke	1849	1878
Logan, J. P. (P)	Atlanta	Fulton	1858	1891
Love, Wm. Abram (V-P)	Atlanta	Fulton	1866	1898
Lumpkin, Geo.	Maxey's Depot	Oglethorpe	1859	.....
Lumpkin, S. P.	Watkinsville	Clarke	1859	.....
Mack, Alexander	Decatur	DeKalb	1897	1905
Mackie, J. D.	Augusta	Richmond	1852	1854
Maddox, W. D.	Monticello	Jasper	1849	.....
Laffit, R. G. W.	Dalton	Whitfield	1859	.....
Martin, J. D.	Savannah	Chatham	1894	1898
Matthews, S. M.	Quitman	Brooks	1900	1901
Matthews, W. B.	Fort Valley	Houston	1884	1885
McBride, W. G.	Oconee	Washington	1850	1873
McDowell, J. M.	Barnsville	Pike	1887	1891
McGolrick, R.	Macon	Bibb	1849	1853

NAME	Post Office	County	Admitted	Died
McKinley, C. A.	Newnan	Coweta	1859	
McMillen, J. E.	Columbus	Muscogee	1872	1883
McMaster, H. B.	Waynesboro	Burke	1888	1909
Means, A., (V-P)	Oxford	Newton	1851	1883
Means, O. S.	Oxford	Newton	1857	
Means, W. A.	Hendrix	Upson	1899	1900
Meniere, Wm. S.	Madison	Morgan	1857	
Milam, R. J.	Fairburn	Campbell	1882	1882
Miller, H. V. M.	Atlanta	Fulton	1851	1896
Moran, C. A.	Atlanta	Fulton	1895	1903
Morgan, E.	Arlington	Calhoun	1902	1905
Morrison, D. H.	Savannah	Chatham	1868	1869
Mull, Joseph C.	Shannon	Floyd	1902	1906
Mulligan, G. W. (V-P, P)	Washington	Wilkes	1883	1897
Musgrove, W. C. (C, S)	Midville	Burke	1849	1876
Nash, R. A.	Marion	Twiggs	1849	
Nesbit, D. B.	Eatonton	Putnam	1894	1900
Nesbit, R. H.	Eatonton	Putnam	1854	1873
Noell, S. G.	Ypsilanti	Talbot	1892	1892
Nottingham, C. B. (S, T, C, P)	Macon	Bibb	1849	1875
Nunn, R. M.	Savannah	Chatham	1871	1873
O'Daniel, Wm. (T., P.)	Bullards	Twiggs	1870	1900
O'Daniel, Wm. A. (O)	Bullards	Twiggs	1886	1906
Ogilby, H. J. (V-P)	Madison	Morgan	1849	1873
O'Keefe, D. C. (S)	Atlanta	Fulton	1852	1871
O'Quinn, John H.	Patterson	Pierce	1908	
Orme, L. H. (S)	Atlanta	Fulton	1866	1872
Owen, J. D.		Baldwin	1850	
O'Sullivan,	Cork	Lee	1849	
Parsons, J. M.	Russellville	Monroe		
Peete, C. H.	Macon	Bibb	1893	1908
Perdue, H.	Barnsville	Pike	1889	1896
Philpot, W. H.	Talbotton	Talbot	1857	1905
Pitts, G. W.	Star	Butts	1859	
Pittman, S. S.	Chipley	Harris	1900	1900
Poore, J. J.	Monroe	Walton	1894	1896
Pope, N. O.	Atlanta	Fulton	1900	1904
Posey, J. F.	Savannah	Chatham	1851	
Powell, T. S. (V-P)	Atlanta	Fulton	1857	1896
Pringle, W.	Covington	Newton		
Pritchard, J. E.	Resaca	Gordon	1905	1906
Quillian, D. D.	Athens	Clarke	1892	1906
Quarterman, K. A.	Wathourville	Liberty	1885	
Ragan, Isham H.	Palmyra	Lee	1856	

NAME	Post Office	County	Admitted	Died
Raines, Thomas	Atlanta	Fulton	1872	1883
Raines, T. L.	Atlanta	Fulton	1882	1884
Rauschenberg, Christian	Atlanta	Fulton	1861	1878
Richardson, C. P.	Savannah	Chatham	1851	1853
Ridley, R. A. T. (V-P)	LaGrange	Troup	1859	1871
Robertson, J. J.	Washington	Wilkes	1852	1872
Robinson, G. P.	Atlanta	Fulton	1899	1902
Robison, W. R.	Milledgeville	Baldwin	1896	1904
Roddy, R. L. (V-P)	Forsyth	Monroe	1849	1878
Roy, G. G.	Atlanta	Fulton	1878	1901
Rudisill, B. F.	Forsyth	Monroe	1887	1901
Ruffin, W. R.	Augusta	Richmond	1852	.....
Russell, W. J.	Lawrenceville	Gwinnett	1861	.....
Ryan, T. D. L.	Hawkinsville	Pulaski	1859	1876
Stafford, S. J.	Madison	Morgan	1856	1859
Searcy, D. B.	Bolingbroke	Monroe	1849	1885
Shropshire, J. W.			1871	.....
Simmons, J. N.	Atlanta	Fulton	1850	1871
Simmons, J. S.	Gainesville	Hall	1873	1881
Simmons, S. B.	Augusta	Richmond	1852	1867
Simmons, T. A.	Irwinton	Wilkinson	1871	1871
Slaughter, T. J.	Villa Rica		1851	1889
Smith, A. D.	Montezuma	Macon	1871	.....
Smith, C. W.	Jonesboro	Clayton	1859	.....
Smith, Hiram	Augusta	Richmond	1876	1888
Smith, H. H.	Augusta	Richmond	1886	1887
Smith, R. M. (C)	Athens	Clarke		1879
Smith, Thomas	Savannah	Chatham	1858	1876
Spier, W. A.	Grantville	Coweta	1859	.....
Stallings, J. D.	Preston	Webster	1871	.....
Stanford, F. A.	Columbus	Muscogee	1849	1885
Starr, E. P.	Savannah	Chatham	1868	1873
Steele, H.	Knoxville	Crawford	1849	.....
Steele, R. T.	Fairburn	Campbell	1849	.....
Steiner, H. H.	Augusta	Richmond	1857	1892
Stevens, W. B.	Forsyth	Monroe	1849	.....
Sterling, W. L.	Atlanta	Fulton	1878	1894
Stewardson, Thomas	Savannah	Chatham	1849	.....
Stone, Geo. H.	Savannah	Chatham	1875	1899
Stovall, G. W.	Elberton	Elbert	1894	1894
Stozier, L. L.	Albany	Dougherty	1867	.....
Strother, W. A.	Albany	Dougherty	1867	1896
Sullivan, J. S.	Macon	Bibb	1893	1908
Sutton, C. B.		Lee	1856	.....

NAME	Post Office	County	Admitted	Died
Taliaferro, V. H. (V-P)	Atlanta	Fulton	1857	1887
Taylor, E. T.	Columbus	Muscogee	1855	.....
Taylor, J. P.	Haralson	Coweta	1859	1897
Taylor, R. N.	Hawkinsville	Pulaski	1850	.....
Thomas, J. G. (V-P, C, T)	Savannah	Chatham	1867	1885
Thompson, Chas.	Macon	Bibb	1849	1854
Thompson, Wm. L.	Pitts	Wilcox	1897	1898
Trammel, A. A.	Forsyth	Monroe	1856	.....
Trippe, R. J.	Cartersville	Bartow	1904	1909
Tucker, O. W.	Brunswick	Glynn	1890	1891
Tyson, J. D.	Adrian	Emanuel	1893	1904
Underwood, J. B.	Cave Springs	Floyd	1866	1881
Van Meter, J. N.	Euharlee	Bartow	1879	1881
Wall, C. D.	Columbus	Muscogee	1899	1900
Wall, W. W.	Calhoun	Gordon	1869	.....
Walker, T. F.	Cochran	Pulaski	1858	1888
Walker, F.	Macon	Bibb	1889	1898
Ware, A. E. O.	.....	.....	1859	.....
Warring, J. J.	Savannah	Chatham	1853	1888
Watson, W. A.	Jefferson	Jackson	1883	1889
Watson, G. B.	Acree	Worth	1897	1897
Wells, C. H.	Savannah	Chatham	1853	1854
Wells, W. B.	Chattanooga	Tennessee	1873	1891
Wells, Charles (P)	Perry	Houston	1849	.....
West, C. W.	Savannah	Chatham	1853	1859
West, J. N.	Toccoa	Habersham	1901	1903
Westmoreland, W. F. (P)	Atlanta	Fulton	1856	1890
Wethington, R. T.	Thomasville	Thomas	1884	1887
Whaley, W. S.	Athens	Clarke	1900	1903
White, S. G. (V-P)	Milledgeville	Baldwin	1868	1871
Whitehead, A. G. (V-P, P)	Waynesboro	Burke	1861	1904
Whitlock, Isaac W.	Washington	Wilkes	1852	1853
Wile, Henry	Atlanta	Fulton	1886	1887
Wiley, J. B.	Macon	Bibb	1849	.....
Williams, T. L.	.....	Dooly	1849	.....
Williams, W. L.	Fayetteville	Fayette	1873	.....
Willingham, Willis	Lexington	Oglethorpe	1849	1872
Winchester, E. A.	DeSoto	Sumter	1893	1897
Winn, G. A.	Bolingbroke	Monroe	1849	1862
Wirsen, G. F.	Rutledge	Morgan	1871	1884
Woodson, C. T.	Wilna	Houston	1854	.....
Wooten, W. H.	Lexington	Oglethorpe	1852	1860
Word, T. J.	Rome	Floyd	1887	1890
Word, R. C.	Atlanta	Fulton	1855	1890

NAME	Post Office	County	Admitted	Died
Wragg, J. A.	Savannah	Chatham	1853	.....
Wright, P. H.	Macon	Bibb	1869	1888
Yearwood, J. K.	San Luis Potosi	Mexico	1901	1902
Yonge, Easton	Savannah	Chatham	1880	.....

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